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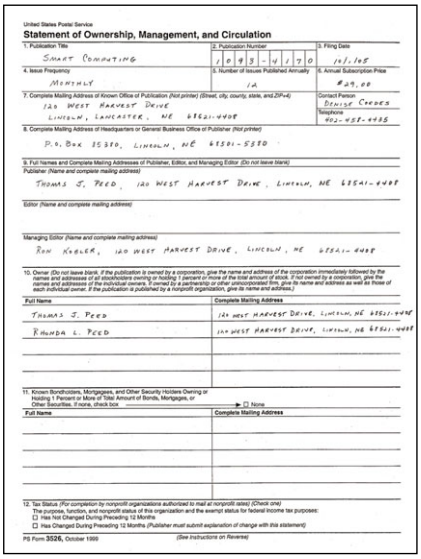
There are so many great things about being an editor of a computer magazine that it's hard to single out just one thing. There's the fact that editors get to work inside in a pleasant office, staying cool in the summer and warm in the winter. Then there's the actual work: I mean, they pay us to be picky and petty. Most people get yelled at for being nitpicky, but it's actually our job! Finally, note that—of all of the "tools of the trade" we editors use—none of them are shovels, picks, jackhammers, or anything else that might inadvertently result in an editor actually working up a sweat. Editors not only don't need to sweat, we're not *allowed* to sweat.

But none of those is our favorite thing about the job. No, the best part of being an editor is being allowed—no, encouraged—to spend hours playing with toys. Yep, it's part of our job to stay up-to-date on the latest software and hardware. And to do that, we have to spend a lot of time playing around with cool toys. It's tough, of course, but . . . well, we're just dedicated to the job. If it takes six hours to make sure that the Tiger Woods PGA Tour game runs correctly on a new computer, by golly, that's what it takes. If we have to spend days crawling around the floor stringing together as many USB devices as possible just to see if we can really daisy chain 63 of them together, we will. And if we have to wander around the neighborhood for hours to determine the true maximum range of a new wireless device, well, that's just part of the job. (It's not our fault there's a sports bar across the street from our building.)

This time, though, you get to play. This issue is our holiday buyer's guide, in which we show you our favorite toys from amongst all the goodies we've been playing with all year. Our writers and editors got together and decided what *we* would buy in various categories, including desktop computers, laptops, printers, monitors, and more. There's even a Goodies 'N Gadgets page for fun toys that didn't quite fit into the other categories but were just too cool to pass up.

So grab some Post-its and start making your holiday gift list. Meanwhile, we need to see if it's really true that the new Roomba robotic vacuum cleaner can be reprogrammed to chase house pets. First, though, we need a house pet. I'm pretty sure there's one at the sports bar across the street.

Rod Scher, Publication Editor



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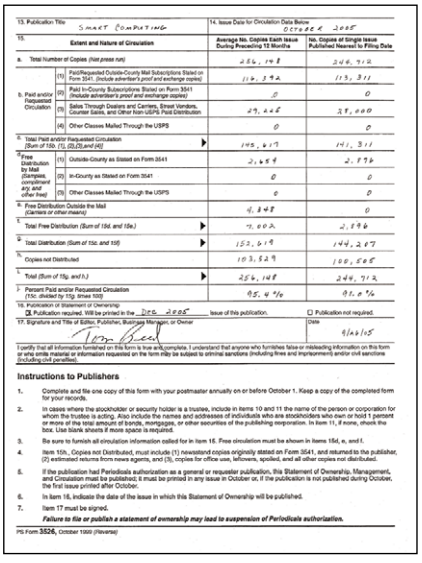

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PS Form 3526, October 1999 (Reverse)

Corrections/Clarifications

In our September issue (pg. 35/36) we accidentally swapped photos of the Sanyo and Sony LCDs that were part of that issue's roundup. The correct photos are to the right.

The Sony SDM-HS75P/B

The Sharp LL-173C-B

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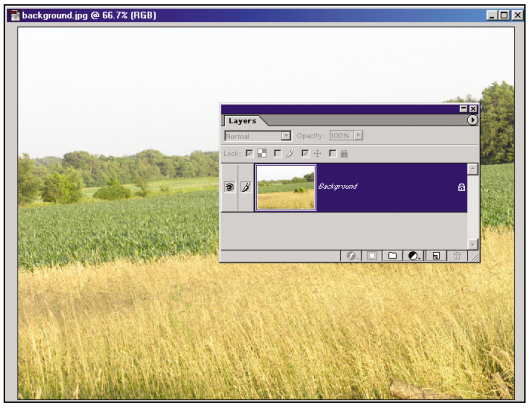

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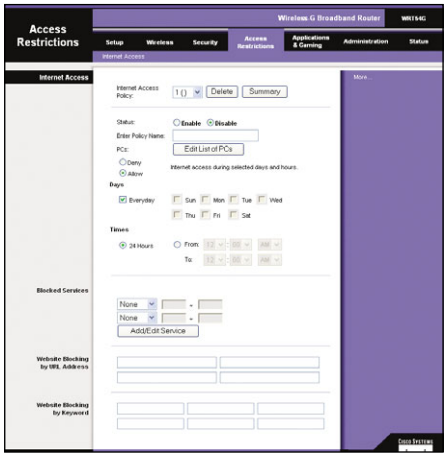

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DESKTOPS & LAPTOPS

New Technology Powers Notebook Batteries

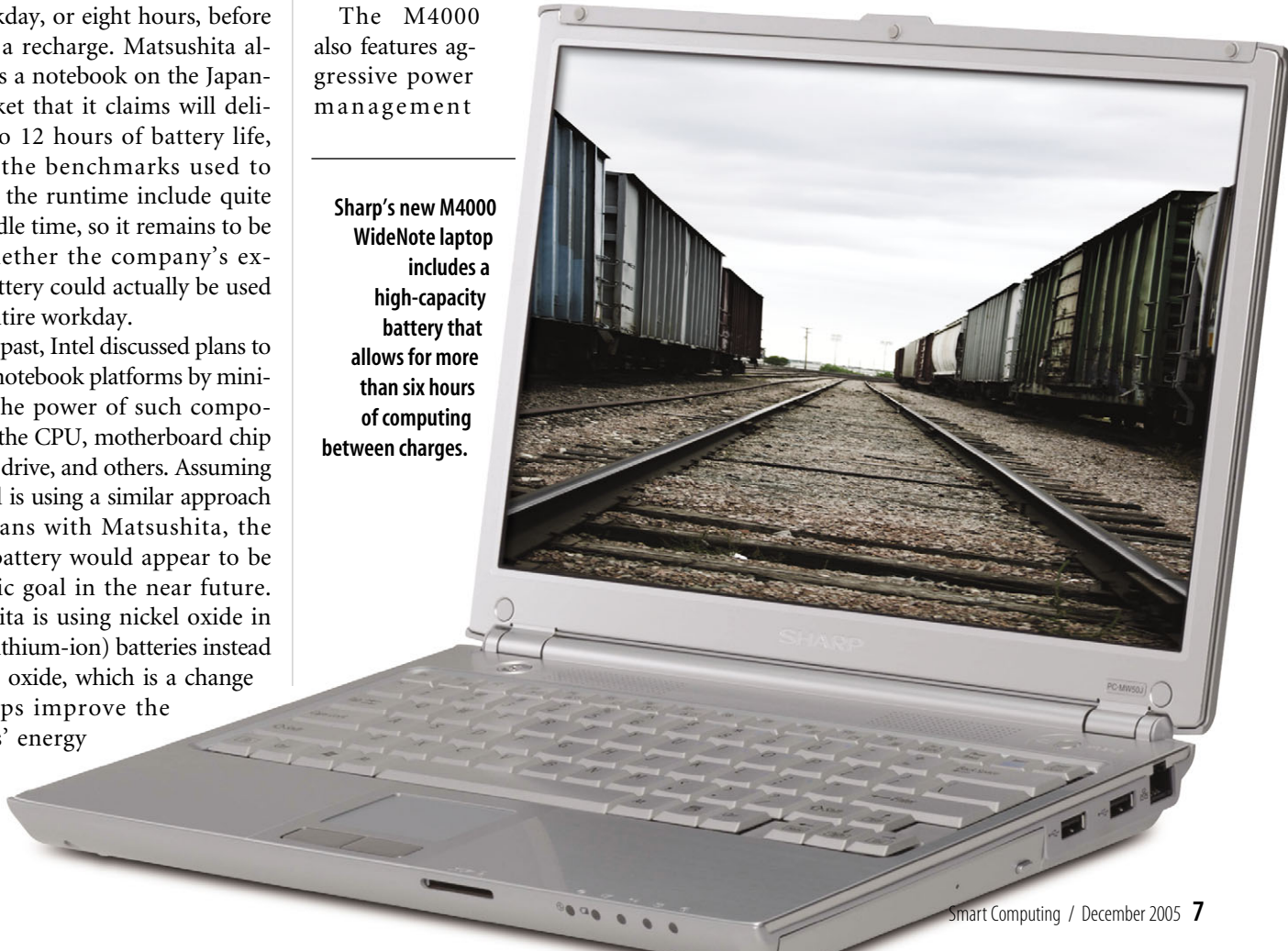
If your notebook battery putters out after a mere hour and a half, we have great news for you. Notebook manufacturers face a constant conundrum when it comes to balancing performance and power because as components such as processors and video chips increase in speed, battery life inevitably drops. But thanks to recent efforts by such companies as Matsushita, Intel, and others, we can soon expect to use notebooks with batteries that stay powered long after current notebooks need recharging.

Matsushita and Intel recently announced plans to develop notebook batteries that can last an entire workday, or eight hours, before needing a recharge. Matsushita already has a notebook on the Japanese market that it claims will deliver up to 12 hours of battery life, though the benchmarks used to measure the runtime include quite a bit of idle time, so it remains to be seen whether the company's existing battery could actually be used for an entire workday.

In the past, Intel discussed plans to revamp notebook platforms by minimizing the power of such components as the CPU, motherboard chip set, hard drive, and others. Assuming that Intel is using a similar approach in its plans with Matsushita, the all-day battery would appear to be a realistic goal in the near future. Matsushita is using nickel oxide in Li-Ion (lithium-ion) batteries instead of cobalt oxide, which is a change that helps improve the batteries' energy density.

If you don't want to wait for this newfangled battery technology to appear in notebooks, check out Sharp's new M4000 WideNote ($1,799; www.sharpsystems.com). This notebook features a 13.3-inch widescreen display and a high-capacity battery that delivers more than six hours of life per charge, which is one of the best battery times available today. Surprisingly, this notebook doesn't skimp too much on its components to deliver that battery life, as it includes a 1.73GHz Pentium M processor, 512MB of 400MHz RAM, and the aforementioned display that has a 1,200 x 800 native resolution.

The M4000 also features aggressive power management tools that let you tweak the power levels of up to 11 subsystems, including the hard drive, optical drive, WLAN (wireless local-area network), system standby, audio, CPU performance, as well as the LCD (liquid-crystal display) for brightness, backlight, and refresh rate. CPU manufacturers continue to do a nice job of ramping down the power requirements of their mobile chips, but for components that aren't so well behaved in the power consumption department, it's nice to have access to controls that can suspend or disable them when necessary to preserve battery life.



Sharp's new M4000 WideNote laptop includes a high-capacity battery that allows for more than six hours of computing between charges.

STORAGE

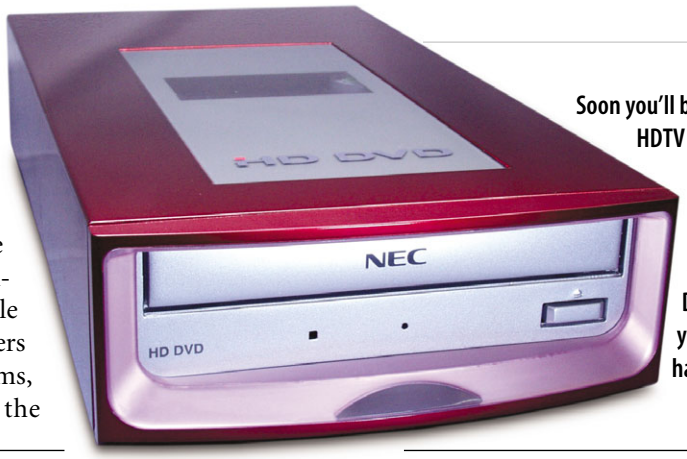
Better HD Recording & Storage In The Works

Watching HDTV (high-definition television) can't be beat, but recording it is another matter because you can't do it using a standard DVD or VHS recorder. Sure, you can record a lower-resolution version of HD programs, but what fun is that?

Two ways to accomplish this feat: one, use an HD DVR (digital video recorder), which generally won't include much storage; or two, use a D-VHS deck, which requires expensive tapes that don't let you skip to chapters like DVDs do. On the other hand, you could wait for technology such as Hitachi's new hard drive/DVD recorder that can store up to 1TB (terabyte) of data, or about 128 hours of HD broadcasting.

Although Hitachi says it doesn't have any initial plans to market the product in the United States, it's good that equipment is already becoming available that'll easily handle HD recording. In fact, Hitachi's new recorders can simultaneously record two HD programs, so we're also seeing some flexibility with the technology. On the downside, the recorders are frightfully expensive (about $1,000 to $2,000 in U.S. dollars, depending on storage capacity), and they use standard 4.7GB DVDs.

Also on the horizon are Blu-ray and HD DVD (high-definition DVD) recorders, both of which should provide flexible, high-performance HD-recording capabilities. The first recorders of both varieties should begin appearing on the U.S. market in early 2006.



Soon you'll be able to record HDTV (high-definition television) with devices such as NEC's HD DVD (high-definition DVD) recorder, but you'll likely pay handsomely to do it.

DISPLAYS

Read & Roll

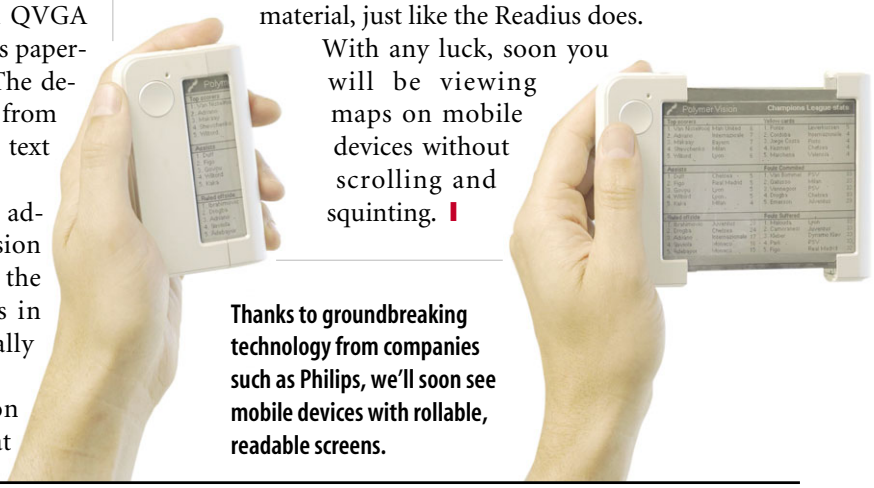
We've been hearing about rollable displays for what seems like forever, but Philips Polymer Vision has now rolled out some actual goods, recently unveiling a prototype electronic reader that can roll the display to expand and contract the reader.

The Philips Concept Readius features a 5-inch QVGA (Quarter Video Graphics Array) display that delivers paper-like, high-contrast viewing using four gray levels. The device has a "bi-stable electrophoretic display effect" from E Ink that uses minimal power and lets users read text even in bright daylight.

"Making displays thinner and flexible will have advantages in power and weight," says Polymer Vision CEO Karl McGoldrick. "But the only way to add the key advantage of size—allowing larger displays in smaller, pocket-size mobile devices—is by actually making the displays rollable."

The Readius uses almost 80,000 transistors on plastic, which differs from nonrollable displays that use glass substrates. Earlier this year, Sony and the Institute of Physical and Chemical Research showed their own display prototype that's similarly thin enough to be rolled up like a piece of paper. The display has an impressive 79dpi (dots per inch) and uses transistors made from an organic material, just like the Readius does.

With any luck, soon you will be viewing maps on mobile devices without scrolling and squinting.



Thanks to groundbreaking technology from companies such as Philips, we'll soon see mobile devices with rollable, readable screens.

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PRINTERS & PERIPHERALS

Ergo Keyboard Finally Gets A Face-Lift

If you're one of the two people we know who uses an ergonomic keyboard, hold on to your hat because Microsoft is revamping the design of its split keyboard for the first time in 10 years.

Microsoft is calling the Natural Ergonomic Keyboard 4000 an "ergonomic breakthrough," thanks to several new advancements the company claims will improve wrist posture and prevent finger stress. For starters, a detachable palm lift on the bottom of the keyboard works in tandem with the cushioned wrist wrest to reduce the vertical bending of wrists. By providing a 7-degree angle, the idea is that your wrists will approach the keyboard at a more natural position.

Also new is a 14-degree keyboard gable angle, which moves the forearms toward a handshake posture, as well as a new curvature in two planes that follows the arc of your figures. According to Microsoft, the curvature change brings the outside keys closer to the center of your hand and points the keys' faces to a similar spot.

Aside from comfort enhancements, the Natural Ergonomic Keyboard 4000 also includes other interesting features, such as the Zoom Slider. This tool looks similar to a sliding light dimmer switch in homes and lets you automatically zoom in to or out of a specific spot on-screen, as long as you're using compatible software.

CPUs, CHIPS & CARDS

Low-Power Chips Break The Mold

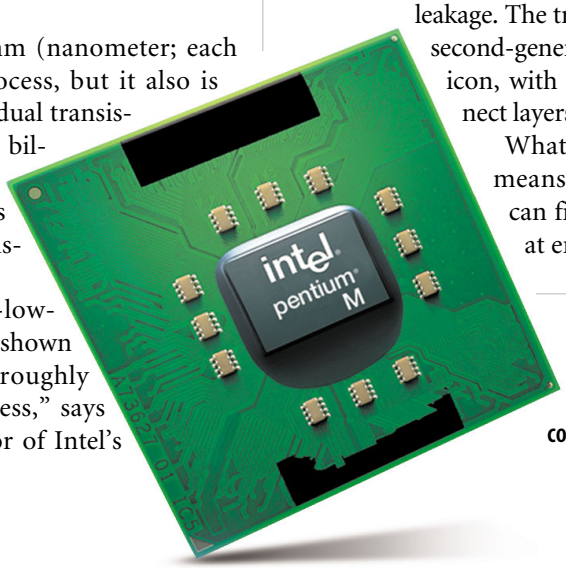
The buzz these days in the chip world is low power, and Intel is leading the charge toward creating chips that consume miniscule amounts of power while still packing a performance punch. Recently the company divulged details on a new manufacturing process designed to create these low-power gems.

Not only is Intel using a new 65nm (nanometer; each one is one-billionth of a meter) process, but it also is focusing more on the design of individual transistors, which can number more than 1 billion on a single chip. In the past, a specific problem with transistors was power leakage, even when the transistors were turned off.

"Test chips made on Intel's ultra-low-power 65nm process technology have shown transistor power leakage reduction roughly 1,000 times from our standard process," says Mark Bohr, senior fellow and director of Intel's Process Architecture and Integration. "This translates into significant power savings for people who will use devices based on this technology."

Intel is targeting three areas to reduce transistor leakage: sub-threshold leakage, junction leakage, and gate oxide leakage. The transistors themselves are based on a second-generation version of Intel's strained silicon, with eight high-speed copper interconnect layers and Low-K dielectric material.

What, you don't know what "Low-K" means? We didn't, either. Luckily, you can find a Wikipedia entry for the term at en.wikipedia.org/wiki/Low-K.



Chips such as Intel's Pentium M already boast low power consumption, but future chips will take the concept even further.

DIGITAL MISCELLANEA

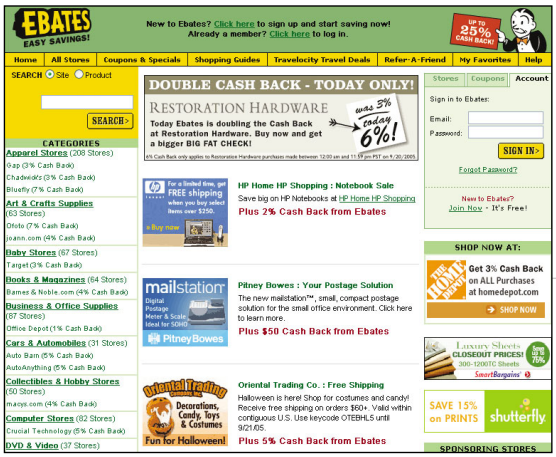
Cash Back For Online Purchases

If you frequently shop online, you're probably well-versed in the language of coupon codes and rebates. But if you haven't heard of Ebates (www.ebates.com), you might be missing out on getting cash back for many of your purchases.

Ebates is simple to use: Just visit the Ebates Web site and register so that Ebates knows where to send your money. Next, search for a store that carries something you want to buy, click the store's link from Ebates, and earn up to a 25% cash back reward on your purchase. Ebates receives a commission from the more than 800 stores it partners with and then sends the money on to you.

Ebates offers a good selection of major retailers, including Macy's, Target, Barnes & Noble, Best Buy, and others, and the stores are organized into categories such as apparel, books, computer stores, flowers, sporting goods, etc. You also can view stores according to the amount of savings you'll receive, which is useful because some stores offer greater discounts than others. Ebates will send your money in the form of a check or a deposit in your PayPal account.

If you decide to try Ebates, we recommend using the service via the Ebates Web site instead of downloading the service's Moe Money Maker software. Although this utility provides Ebates functionality via the Desktop, it also raises far too many questions from those in the antispyware community to make it worthwhile.



Ebates eliminates standard rebates and coupons by integrating cash-back rewards directly into your online purchases.

COOL TOOLS

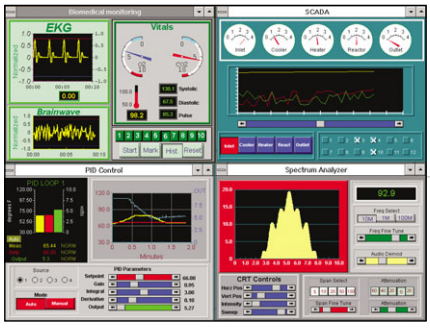
Charting & Real-Time Graphics Ahoy

If you're looking to incorporate charting and real-time graphics into Windows applications, check out a few user-friendly software tools from Quinn-Curtis (www.quinn-curtis.com).

The company's Charting Tools for Windows application ($300 for Visual Basic version) includes a wealth of charting functions and 32-bit DLLs (dynamic-link libraries) that accommodate Windows 95/NT/98/Me/2000/XP. Components include pie charts, line plots, area plots, horizontal bars, scatter plots, group plots, open-high-low-close plots, contour plots, and others, and users can output their charts directly to Windows-supported printers at presentation-quality resolutions. Built-in dialog boxes let you easily edit chart characteristics and automatic axes let you scale, draw x- and y-axes, and label axes with one function call.

For display functions, Real-Time Graphics Tool for Windows ($600 for Visual Basic version) contains utilities for creating scrolling graphs, sweep graphs, logic graphs, annunciators, xy plots, dynamic text, dynamic bar graphs, and visual meters. The software also lets you add LED (light-emitting diode) controls, buttons, scroll bars, and checkboxes to graphical windows. Plus, just like the Charting Tools application, Real-Time Graphics Tools allows high-resolution output to printers.

Each product includes a comprehensive manual, programming examples, and up to 30 demo programs. Source code also is available, as are versions for other programming languages.



Real-Time Graphics Tool for Windows provides an arsenal of utilities to create graphics, meters, plots, and other display functions.

THE TECH GRAPEVINE

Rumors Making The Rounds

As analysts continue to release tablet PC forecasts that are downright depressing, some predictions point to Microsoft continuing to promote the platform but not really going out of its way to do so. For example, Roger Kay, president of Endpoint Technologies Associates, issued a report that predicts tablet PC shipments will be less than 4 million units by 2009, which is a stark contrast from other predictions that put shipments at 14 million by that time. "Microsoft will attempt to promote tablet adoption by tying functionality to other products, such as Office and Explorer, but will not take extraordinary steps—such as a huge advertising campaign, extremely liberal use of market development funds, and dramatic decreases in the cost of the Tablet OS—to widen with market further," Kay wrote.

What's Google doing with all its money these days? One rumor has the online giant buying the Reuters news service. Although such a purchase isn't likely, Jupiter Research Senior Analyst Gary Stein noted that such a move could come in handy as a content source for Google if the company launches its national Wi-Fi network (which we mentioned here last month).

Portable music players are making us deaf—this according to Robert Novak, director of clinical education in audiology at Purdue University, who (along with colleagues) randomly examined students and discovered increased incidence of noise-induced hearing loss.

CEO Mark Hurd continues to stir things up at HP, simultaneously inspiring a fresh round of rumors surrounding the company. The latest rumors include HP buying Hurd's former employer, NCR, and acquiring Eastman Kodak. The Kodak rumor, in particular, has been bandied about for months, but HP insiders told *BusinessWeek* that the company isn't even discussing the move. Perhaps we're all just salivating for another eye-popping move like HP's Compaq acquisition more than three years ago.

If you're familiar with Skype (www.skype.com), you know it's a cool program for making free calls to other Skype users, as well as making budget calls to landline and mobile users. You also might know that eBay recently bought Skype, and if the rumor mill has it right, Skype may no longer offer such appealing services. Although there's no indication from Skype of upcoming changes, some feel that the acquisition signals the end of Skype's free services. Further, because U.S.-based eBay bought Luxembourg-based Skype, others predict potential legal snags, particularly with the FCC (Federal Communications Commission) recently showing an interest in regulating VoIP (Voice over Internet Protocol) services.

DULY QUOTED

"We want to become the second-biggest browser. The number one is a little inaccessible."

—Opera Software Chief Executive Jon von Tetzchner announces plans for his newly free browser, whose lack of banner ads could help it compete with Mozilla's Firefox for the second spot beneath Microsoft's Internet Explorer. (Source: AFP)

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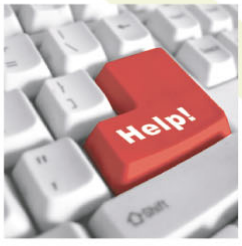

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CONVERGENT TECH: PDAs & SMARTPHONES

Mobile Phones Add Muscle

Every month we see a mobile phone that inches ever closer to matching the functionality of other devices such as PDAs (personal digital assistants) and standalone digital cameras. However, a few recent developments are nudging those inches into feet.

Most camera phones can take snapshots that are sufficient for emailing to friends, but the resolution of those shots isn't generally adequate for making prints. Micron's trying to change that with two new CMOS (complementary metal-oxide semiconductor) image sensors that manufacturers can use to equip phones with 3.1MP (megapixel) or even 5MP cameras.

"The image quality and resolution of these new sensors will challenge the dominance of CCD (charge-coupled device) technology in the high-volume, point-and-shoot segment of the DSC (digital still camera) market and will also bring DSC-class images to the lucrative camera phone market," says Hisayuki Suzuki, senior director of marketing for Micron.

To create the sensors, Micron shrunk the pixel size to allow for a smaller form

New Products Hardware

Compiled by Kylee Dickey

Quick takes on the latest hardware and software to hit the market at press time. Manufacturers' and publishers' release dates are subject to change, so some products may not be available when you read this. (Logos indicate products are compatible with either Windows or Macintosh only.)

	2x1 DVI KVM Switcher Gefen • $199	(800) 545-6900 (818) 884-6294	www.gefen.com	*Connect two computers to one monitor with DVI connectivity*
	DXG-552 DXG Technology USA $139.99	(626) 581-3742	www.dxgusa.com	*A thin 5.1MP (megapixel) digital camera with a 2-inch LCD*
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	Go Wi-Fi! E300 Socket Communications $89	(510) 744-2721	www.socketcom.com	*Locate and connect to wireless networks from your Windows Mobile 2003 device using this SDIO card*
	Keys-U-See The Key Connection $34.95	(800) 870-1369 (928) 340-3404	www.keys-u-see.com	*Large-print keyboard with programmable hotkeys and multimedia keys*
	LVW-1105 Lite-On $99	(510) 687-1800	www.liteonamericas.com	*DVD±R/RW drive with a DV Link port for direct transfers from camcorder to DVD*
	mm28 Portable Speakers Logitech • $79.99	(800) 231-7717 (510) 795-8500	www.logitech.com	*Portable stereo speakers that are less than 1.25 inches thick*
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	T30-1GB iriver America $149.99	(800) 399-1799 (408) 635-8000	www.iriveramerica.com	*1GB digital music player with support for subscription-based download services through Windows Media DRM 10*
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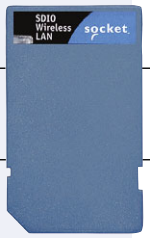


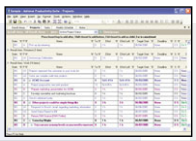
factor while retaining picture quality. The 5MP sensor can shoot 12fps (frames per second) at full resolution and allow up to 30fps in preview mode. The 3.1MP sensor can shoot 15fps at full resolution. Mass production of the 3.1MP sensor begins this quarter, whereas the 5MP sensor begins mass production in the first quarter of 2006.

On the storage front, British nanotechnologists working to emulate functions used in nanoscale devices have created a technology that one day could allow 100GB of storage capacity in mobile phones. Although the chips that allow this won't be available for a few years, it's interesting to note that this research bases its approach on brain functioning, using a complex network of nanowires and nodes to emulate the brain's neurons and axons.

Finally, according to an article at NewScientist.com, new software developed by NEC and the NAIST (Nara Institute of Science and Technology) in Japan lets mobile phone cameras scan entire documents by sweeping the phone across a page. For example, a user can scan an A4-sized page from at least 20 centimeters away using a 1MP camera, and the process would take only about three to five seconds. To do the job, the software snaps between 21 and 35 images, merges them by using the outline of the page to match them up, and extracts the text—just like PC-based OCR (optical character recognition) software.

This new scanning software is already raising flags in the intellectual property arena, where print companies foresee problems similar to those faced by the music industry in recent years. To ease these fears, NEC claims its software will sound an alarm when scanning.

New Products Software

	Achieve Planner 1.1 Standard Effexis Software $49	info@effexis.com 	www.effexis.com	*Organize projects and better manage your time*
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	ScamAlarm CollectiveTrust $29.95	(415) 738-2336 contact@collectivetrust.com	www.collectivetrust.com	*Protect yourself from identity theft, phishing, and online scams*
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Enhance Your View

Because I have two video cards in my PC, I was able to hook up this new 19-inch Samsung monitor and compare it side-by-side with my old monitor. All I could say was "Wow, what a difference!" My old monitor is no slouch. It is a 19-inch flat panel with all the bells and whistles that were available when I bought it about three years ago. But the clarity, color, and visual acuity of the new monitor blew my old one away.

SyncMaster 193p+
$549
Samsung
(800) 726-7864
www.samsung.com

Spyder2
$189
ColorVision
www.colorvision.com

Besides the excellent picture, this monitor has another useful feature. It can be physically rotated so that the screen is longer than it is wide. I quickly fell in love with this feature. It enabled me to view the entire page of a Word document on one screen. Because it displayed more of a Web page's content, surfing required a lot less scrolling.

This Samsung has a 1,280 x 1,024 resolution and comes with analog and digital ports. My one complaint is the lack of documentation. While you can hook the computer up and get a good picture, this monitor has several great features you'll only find by installing the drivers and searching the manufacturer's Web site.

Because of the lack of documentation, you may be surprised to find there are no adjustment buttons on the monitor's bezel. While older monitors have analog dials and on-screen display buttons to adjust the display settings, this one uses the included MagicTune software that makes it much easier to change settings and calibrate the monitor. You'd think that Samsung would want to brag about this great feature in the documentation. Monitor calibration is important because it helps the screen colors represent the colors.

If you print photographs, you will often notice that the colors that print are not necessarily the same as the colors that appear on the screen. That's because Windows uses a color/brightness/contrast profile that it receives from the monitor. Each manufacturer uses different profiles. Right off the production line, even identical monitors can have variations. Once you get the monitor home, the color display can change with time. On top of that, playing with the monitor settings can make the display better or worse.

Tweak It

As you can see, there are many details that can result in screen colors that are far from accurate. If you have ever tried to manually adjust a monitor, you know that it is a frustrating and often impossible task. A good monitor such as the Samsung with built-in color calibration can improve that situation. You can also purchase some high-end software such as Adobe's Photoshop that has gamma color calibration. Another option, however, to calibrate and fine-tune your monitor is a product such as the ColorVision Spyder, which is our TechMate for this month.

The Spyder works on CRT and LCD monitors and using it is fairly easy. Install the software. Then follow the step-by-step instructions, which include hanging the three-pronged spider-looking device on the monitor. You don't have to know anything about luminance, gamma, or the white balance. The Spyder handles it all. If you do want to learn a little, click the help button at each step to learn what settings are being adjusted and what they do.

Although the help screens have wonderful explanations, the included documentation is very sparse. If you don't know how to turn off your screen saver or energy-saving settings, you will be left leafing through Windows help screens or calling ColorVision's tech support. The version that I reviewed came with PANTONE colorist software without any documentation about the functionality of the program. It turned out to be an add-in for Adobe Photoshop.

Yet, the Spyder did exactly what it was supposed to. The end result was a clear improvement in skin tones. Colors were more vivid and seemed better balanced. All in all, the monitor displayed more accurate color. The change was more dramatic for my older monitor, but still noticeable on the new one. The $189 Spyder2 I reviewed is ColorVision's midrange package. There's also have a slightly less robust home version for $109 and an extremely customizable professional version for $299.

We often think of adding more memory or purchasing new software, but seldom do we think of a new monitor. You might never have even considered a package for calibrating a monitor. Yet these two products make great TechMates. ■

BY SANDY BERGER

Sandy Berger *is a nationally respected technology author and computing expert. Sandy's aim is to convey to others in easy-to-understand language what they need to know to take advantage of today's technology. Visit her at* **http://www.compukiss.com** *or email her at* **SandyB@smartcomputing.com**.

Megapixel Nightmares

A Camera That Faces Its Worst Fears

Nathan Chandler

Send insights and insults to Nathan at nathan@smartcomputing.com

Digital cameras have come a long way in the past couple of years, but they still haven't caught up to their film-based forefathers in regard to a number of crucial characteristics, especially overall toughness and durability. Yeah, that's right—that $500 digicam you just bought? It will weep at the sign of sprinkles and then cough, sputter, and die in heavy dust and smoke. You can prevent your digicam's premature end by investing in a more rugged version, such as the Olympus Stylus 800 Digital.

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The 800 Digital is no ordinary 8-megapixel digital camera. Olympus protected this camera's various seams and compartment with seals designed to keep out water, dust, and other particulates. So if you want to snap a few shots in the rain, the 800 will let you do so without the need for an expensive Plexiglas case or other unwieldy solution.

The 800 comes with a 3X optical zoom lens, 2.5-inch color monitor, microphone and speaker, 24 preset shooting modes, and a lithium-ion battery and charger. Those features settle into a body that's 2.3 inches high x 4.1 inches wide x 1.3 inches deep and weighs less than 7 ounces. In addition, this model uses Olympus' Bright Capture technology, which is designed to help you shoot better pictures in low-light situations and improve image clarity and sharpness even for moving subjects.

In spite of its high resolution and long list of capabilities, this model isn't intended for advanced photographers, who won't like the limited number of manual features. For instance, the slowest possible shutter speed is four seconds, there's no custom white balance mode, and no optical viewfinder. Novice photographers, on the other hand, will like the intuitive control system and the on-screen help guide that walks users through photographic principles and points out features you can use to improve images.

In Action

Many cameras designed for the snapshooting crowd have appallingly slow shooting speeds and shutter lag or they produce discolored images. The 800 managed to avoid those kinds of serious pitfalls.

After I pressed the power button, the camera was ready for shooting in less than two seconds. With the flash and image review features turned off, shot-to-shot delays were only around a second, so long as there was enough light for the slightly sluggish autofocus to find its targets. The camera's controllers and menus worked fast, too, unlike so many affordable cameras that have frustrating hiccups and pauses when you need to change settings in a hurry.

I was also mostly happy with the 800's picture quality. Picture details were sharp and undistorted, and the automatic white balance created accurate colors in most lighting situations. On the other hand, I wasn't that impressed with the Bright Capture technology, because even when I braced the camera against stationary objects for shots in dim light, my images were blurry and grainy. This technology isn't a panacea for low-light shooting woes.

It's All Wet

My tests wouldn't have been complete without water, so I subjected the 800 to a full stream of water from a drinking fountain while shooting. I experienced zero problems during or after this session. I simply wiped away water droplets on the lens barrel when it was extended, and it was as if I'd never exposed the 800 to a substance that would've completely destroyed most digital cameras.

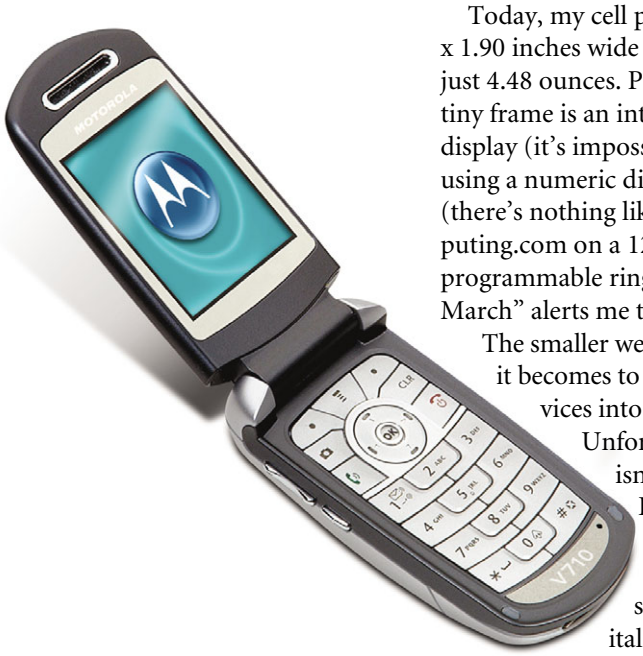
That kind of weather resistance means you can use this Olympus to shoot in all sorts of adverse conditions where you'd normally just shrug and give up on the idea of taking pictures. So if you're not the type who shies away from outdoor fun when the weather turns sour, this might well be the kind of camera you need for your adventures.

The Wisdom Of Integration

Cameras Turn Up Everywhere

Chad Denton

Send Chad your opinions at chad@smartcomputing.com



My first cell phone measured roughly 6 inches high and 4 inches wide and weighed far closer to a pound than any cell phone should. It included an 11-character numeric LED (light-emitting diode) and speed dial (which you couldn't set up without the instruction manual because an 11-character numeric display just isn't very intuitive). It didn't do much else besides send and receive calls, but then again, that is the whole point of having a cell phone.

Today, my cell phone is 3.54 inches high x 1.90 inches wide x 1 inch deep and weighs just 4.48 ounces. Packed into the relatively tiny frame is an integrated camera, a color display (it's impossible to frame a picture using a numeric display), a Web browser (there's nothing like reading SmartComputing.com on a 128 x 160 display), and programmable ring tones (the "Imperial March" alerts me to calls I'd rather ignore).

The smaller we shrink devices, the easier it becomes to combine multiple devices into one new uber-device. Unfortunately, integration isn't always done well. Digital cameras are turning up in more and more portable devices. In some instances, these digital cameras are a great addition, but this isn't always the case.

The appeal of a combining a digital camera with a cell phone seems obvious. We've all found ourselves wishing for a camera on occasion, so adding a camera to the cell phone we habitually carry seems like a handy way to help us capture those spontaneous moments. However, the wireless providers tend to get in the way of this good idea and reduce the usefulness of the now nearly ubiquitous camera phone.

Wireless providers love the camera phone because it provides a hook to sell pricey wireless data services. Sprint PCS users, for instance, need to either buy a Vision Plus Pack from Sprint (for $15 a month) or pay one cent per kilobyte to get an image off their cell phones. In some instances, wireless providers even cripple Bluetooth implementations on high-end phones. Verizon Wireless customers filed a class action lawsuit against the provider in January when they learned that Verizon disabled Bluetooth file transfers on its Motorola v710. Verizon claimed it disabled Bluetooth file transfers to increase security, but it also forced customers to pay wireless data charges to download pictures from their phones.

If you listen to wireless providers, camera phones are the perfect way to share the wacky events of daily life with our friends and family. The problem is I don't have enough wacky adventures to justify an extra $15 a month. In fact, sharing low-quality images of the mundane minutia of my life would be a good way to ensure that I'd have neither friends nor family. Some may use their camera on a more regular basis, but I suspect most of us would be content if we could take an occasional picture and get it off our phone without paying an extra $1 per picture. Wireless providers make the camera phone feature less useful than it could be.

Those of us with PDAs (personal digital assistants) tend to carry them with us most places we go, so again it makes sense to add a camera to a PDA. Unlike a cell phone, however, there is no service associated with a PDA (unless you have one of those smartphones) and thus no reason for anyone to control how you get pictures on or off a PDA. There is another advantage PDAs enjoy over cell phones: PDAs have better screens. A cell phone screen is all right for framing a picture, but they're too small to show any detail. A PDA, on the other hand, has a much larger display with higher resolutions. A typical Palm OS device, for instance, has a 320 x 320 display that shows a lot more detail than a cell phone display.

Integrating multiple features into a single device isn't always easy, but it gets even more complicated when third parties interject their own sets of requirements and interfere with otherwise useful features. It wouldn't surprise me to see cameras turning up in more and more devices, but thanks to wireless providers, the camera phone may remain one of the more useless examples of integration.

Here It Comes

Will Apple's Mighty Mouse Save The Day?

Kylee Dickey

Send your comments to kylee@smartcomputing.com

Windows users have come to take two- and three-button mice for granted. In the meantime, users in the Mac world have continued to use Apple's single-button mice (or install third-party mice). This year, Apple finally released an optical mouse with right-click and scroll capabilities. Apple also says this mouse is ideal for PCs, as well as Macs. I used this mouse on both a Mac and a PC to see if this claim held true.

Where To Click

The Mighty Mouse does not actually have left and right buttons. Instead, it has an outer shell that tilts slightly on its base to provide feedback and registers clicks by sensing changes in electrical charges. Also, instead of having a scroll wheel, the Mighty Mouse has a Scroll Ball, which is about the size of a pea. If you use the mouse on a Mac, you have not only vertical but also horizontal scrolling with the Scroll Ball. Finally, the Mighty Mouse has two side buttons. Whereas most multibutton mice have separately programmable side buttons, the Mighty Mouse's side buttons function only together as a single unit. You must squeeze both simultaneously to register a click. To be honest, using the side buttons did not feel very natural to me.

Not only did Apple choose a new mouse design, but it also adopted a new marketing strategy. The Mighty Mouse is advertised for Mac users and Windows 2000/XP users alike. There are a couple of telltale signs, though, that Apple really designed the mouse for Macs. First, the 30-inch cable is too short to reach the USB port on the back of a typical PC. Cable length is not a problem for Mac users because Apple provides a built-in USB port on each side of its keyboards, putting the Mighty Mouse within easy reach. Windows users will likely need to use a USB extension cable with the Mighty Mouse.

You will also find that Windows users can only use the Mighty Mouse as a basic three-button mouse. Apple's included software is not Windows-compatible. You still have some limited control over the mouse's operation through Windows' built-in mouse driver.

On a Mac, the Mighty Mouse has a variety of programmable functions available through the Keyboard & Mouse preference pane of OS X's System Preferences. The mouse's full capabilities are only unleashed on systems running OS X Tiger 10.4.2 or higher. These features include reprogramming buttons, activating several Tiger features, and switching among and launching applications.

Price vs. Performance

The Mighty Mouse has one major quirk. If you are tempted to buy this mouse, take note of the way you operate your current mouse. Observe whether you lift your index finger off the mouse when you right-click. The Mighty Mouse only registers a right-click if you lift your index finger off the mouse. This was not a problem for me, as I have always inadvertently lifted my index finger when I right-click. However, there are many people who may have trouble making the Mighty Mouse register right-clicks.

I found the Scroll Ball surprisingly natural to use, even though it looks and feels much different from the standard scroll wheel. As I mentioned, I also did not encounter any problems right-clicking. However, I had several other people try out this mouse, and those who don't normally lift their index fingers had difficulty right-clicking the Mighty Mouse.

I was satisfied with this mouse's overall performance. However, the cable length, right-click quirk, and side-button operation could very well be problematic for some users. Some Mac and iPod owners may want this mouse to pair with matching Apple products, but the majority of Windows users will probably find the $49 price tag excessive and prefer to spend that money on a Logitech, Microsoft, or Kensington mouse with more features for the same price.

Courtesy of Apple

Mighty Mouse
$49
Apple
(800) 692-7753
(408) 996-1010
www.apple.com

Rise Of The Cheapo PC

Low-Cost Computers Make Great 'Net Surfers

Joshua Gulick

Send your comments to joshua@smartcomputing.com

If you haven't visited Dell's Web site lately, you might be surprised to find that you can buy a decent computer for less than $500. And it actually works. Did you pay less than $500 for the computer you use now? If your system is getting some gray hairs, Dell's cheapo (but brand-new) PC might be more powerful than your computer.

Without a doubt, the world of home computers is changing. Instead of shelling out $2,000 for a high-end system, you can get a home office and entertainment system for less than a grand. Families who previously shared a single PC now snap up computers for each member of the household. We're all relying on our computers more than we did a decade ago, but these rock-bottom prices play a huge role in convincing users to buy multiple systems. Many of these users are my friends and family, and they often call to ask me what customizations I would recommend. After all, you can really pump up your system without adding too much to the price tag when you customize a cheap system.

B110
Dell
Price unavailable as of press time
(888) 799-3355
(512) 338-4400
www.dell.com

First Things First

Consider which tasks you'll use the computer for before you snap up one of the super-cheap systems floating around the 'Net. If your children play the latest video games, or if you spend long hours editing home digital videos, don't waste your dollars on a low-end PC. These rigs can't bear heavy-duty video tasks (they have inexpensive graphics chips that simply won't compare to the high-end cards that run today's games), and you'll face more problems than a slow computer—it may even not be able to run certain games at all. But if you spend your computer time surfing the Web, sending email, or typing documents, you'll find that a customized cheapo PC will handle your needs just fine.

One thing won't change, whether you plan to play video games all day or type a few emails once a week: The size of the monitor will play a huge role in your computer experience. The more screen real estate, the better, especially if you type documents—you can increase the font size (to make your text easier to read) without swallowing the entire screen with a single document. And luckily for you, online computer retailers often have decent deals on monitors for customers who are buying a system. If you have any extra cash to spend on your system, spend it on a larger, flat-panel monitor.

Upgrade Sparingly

You won't need to add much to the computer's components to make it a better home-use computer. (After all, if you load it up with components, you'll leave that low price tag far behind.) However, Dell's (and other builders') customization pages offer plenty of tempting upgrades. Stay away from that extra CD-ROM or a DVD-RW (DVD-rewriteable) upgrade unless you really need it. I'd also ignore sound card upgrades—unless you're a real audiophile, you'll find the PC's built-in audio adequate for your needs.

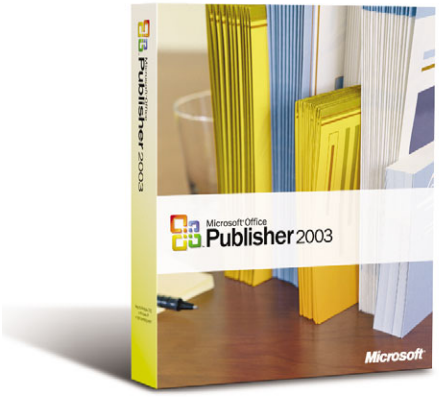
You'll probably want to add to the system's memory and hard drive capacity. Most low-end computers have a mere 256MB of RAM. You can boost your system's speed by adding another 256MB. I'd also check out the PC builder's hard drive upgrade options. The 80GB hard drive is standard these days, but if you collect songs, or if several family members will use the same computer, you'll find that you can fill up that hard drive pretty quickly. Builders often offer much larger hard drives for only a little more cash.

The Price Of Power

Of course, almost any component change will add to the cost of your PC when you're customizing a company's lowest-end system, so feel free to buy the computer without customizations if you really want to stick to the original price. After all, even the low-end rigs these days easily exceed Windows XP's system requirements.

Power Of The Press

Above The Fold Among Desktop Publishing Applications



In 1436, a German goldsmith by the name of Johannes Gutenberg produced the first movable-type printing press. His revolutionary invention made it possible for ordinary people to obtain books at reasonable prices. More than 500 years later, computer technology has made it possible for ordinary people to publish books—and just about anything else—at reasonable prices. All it takes is a PC and some sort of publishing software. You could use a word processing program to draft a newsletter, for instance, or an image editing application to construct a calendar.

For best results, however, you need DTP (desktop publishing) software. A DTP program allows you to execute sophisticated layout techniques and complex design maneuvers. Some even provide ready-made templates that enable inexperienced users to produce professional-quality documents. We looked at several of the most popular DTP titles currently on the market in this month's head-to-head roundup.

Microsoft Publisher 2003

Like its Microsoft Office counterparts, Publisher 2003 stands as a sort of de facto standard in its product category largely because it bears the imprint of Bill Gates and company. And like its Microsoft Office counterparts, this program lives up to the expectations. Publisher 2003 is an intuitive application with broad capabilities that appeals to the vast majority of the computer-using population.

It's easy to see why. First-time publishers will appreciate the program's many automated features. Publisher offers document templates in more than 20 different categories, including calendars, greeting cards, newsletters, and signs. It also provides templates for creating Web sites, origami projects, and business forms such as fax covers and invoices. Each template represents a complete publication based on one of 45 design sets. All you have to do is fill in the blanks . . . or not. Publisher remembers your contact information, color preferences, logos, and tag lines, so you don't have to enter them manually each time you create a new publication.

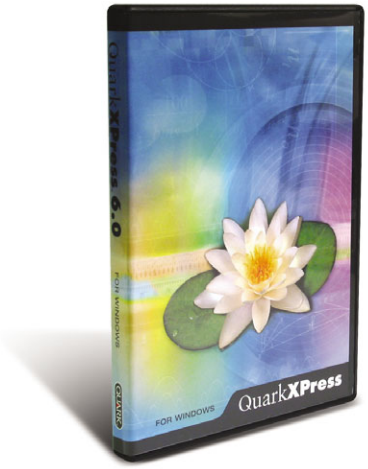
Advanced users will find plenty to like in Publisher, too. The program lets you draft publications from scratch, of course. It also supports the creation of customized templates, called master pages, which you can deploy throughout a publication for a uniform look. Because Publisher is part of the Office family, it's easy to integrate data from a Word document or Excel spreadsheet into your publications. And all publications can be printed on your home printer or converted for output on a commercial press.

On the downside, Microsoft transferred much of its media library to the Web, which means users need an active Internet connection to get the graphics and clipart that would have come with previous editions of the program. The program also lacks a hardcopy manual, ships with measly support options, and is downright ancient at nearly three years old. Moreover, graphics and design professionals may find Publisher lacking in extended functionality. You can't save documents in PDF (Portable Document Format), for instance, and Publisher doesn't support advanced printing options, such as even-odd printing.

Nevertheless, Publisher 2003 remains a robust and reliable DTP program that can handle almost any project a home or small office computer user needs to tackle. Users who are curious about Publisher can try it free for 30 days by ordering a Trial CD Kit at www.microsoft.com/office/publisher/prodinfo/trial.mspx. The program also is bundled with the following suites: Microsoft Office Professional Edition 2003 ($499); Microsoft Office Small Business Management Edition 2006 ($569); and Microsoft Office Small Business Edition 2003 ($449).

Print Shop Pro Publisher Deluxe 21

The latest version of Print Shop Pro Publisher Deluxe makes a poor first impression. The software installation is tediously slow and followed by an obnoxious registration



Buying Tips

DTP (desktop publishing) software isn't cheap. Before investing in a DTP program, review the capabilities of your existing software—especially word processing and image-editing applications—to determine whether one of your existing programs will meet your needs. You might be surprised at what some of these programs can do.

process, during which Riverdeep not only asks for the usual bits of personal information—age, address, telephone number, etc.—but also makes you run through a lengthy marketing questionnaire, presumably so the company can later harass you with unsolicited advertising mailers.

Once the program is up and running, things get better. For instance, we liked that Print Shop Pro automatically located image files on our system and imported them into its hefty graphics catalog. This makes it easy to add your favorite digital snapshots to new publications. The program also provides helpful step-by-step guides for creating publications from template or scratch, support for borderless printing, and the ability to save publications in PDF format. Plus, it comes packed with lots of extras. Print Shop Pro boasts more than 345,000 graphics, more than 19,000 templates, a 396-page users manual, and a built-in photo editor that allows you to make various improvements to your favorite digital snapshots. It even has a small business center that addresses the various issues involved in launching a new company. Too bad the template designs smack of do-it-yourself amateurism and not the subdued sophistication so characteristic of the current corporate style.

For all it has to offer, Print Shop Pro Publisher Deluxe failed to make a lasting impression. Priced affordably at less than $100, it is ultimately a program geared toward high school students and home-based businesses. Serious desktop publishers and established companies should consider something else.

QuarkXPress 6.5

Once upon a time—say, five years ago—QuarkXPress was widely considered to be the premier DTP application for graphics and design professionals. Then things changed. Whether through complacency or laziness, Quark lost its edge. The company was slow at releasing updates and upgrades, even when Adobe released InDesign to rave reviews. The latest version of QuarkXPress fails to restore the program to its former glory.

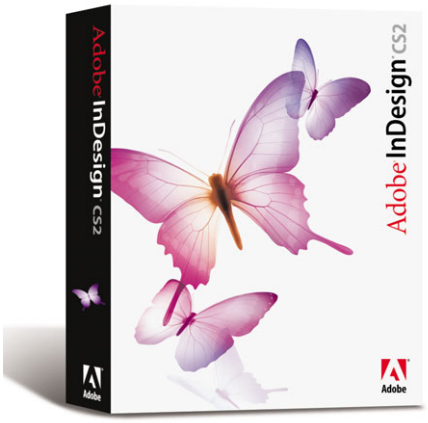
Our disenchantment with the program started almost immediately. Setup seemed needlessly complex as it involved two separate processes: one to install a full version of QuarkXPress 6.1, the second to install the 6.5 update. It's inexcusable that Quark didn't produce a streamlined installation disc for its latest release. The company also set a new standard for tediously long validation codes. We had to type a string of 47 alphanumeric characters to verify that we possessed a legitimate copy of the software. Then, when we looked for the program on the Start menu, we found a shortcut to QuarkXPress 6.1 but no mention of version 6.5. We quickly discovered that the outdated shortcut pointed to the updated program. Even so, it stands as

Software Information

	Price	Company	Contact Information	URL
Microsoft Office Publisher 2003	$169 full install $99 upgrade	Microsoft	(800) 642-7676 (425) 882-8080	www.microsoft.com
Print Shop Pro Publisher Deluxe 21	$99.99	Riverdeep (but Broderbund's site is still better source for product info)	(800) 395-0277 (319) 247-3325	www.broderbund.com
QuarkXPress 6.5	$1,045 (also available as free upgrade to version 6.1)	Quark	(800) 676-4575 (307) 772-7100	www.quark.com
Adobe InDesign CS2	$699 (full) $169 (upgrade)	Adobe Systems	(888) 724-4508 (408) 536-6000	www.adobe.com

Scorecard

	Performance	Ease Of Use	Installation	Support/Documents	Price	Overall Score
Microsoft Office Publisher 2003	4	5	5	3	5	**4.4/5**
Print Shop Pro Publisher Deluxe 21	3	5	3	4	5	4/5
QuarkXPress 6.5	5	3	3	4	3	3.6/5
Adobe InDesign CS2	5	4	5	4	3.5	4.3/5



another example of unnecessary complexity in a program that retails for $1,045.

As the price suggests, QuarkXPress is targeted at graphics and design professionals. All projects are drafted from scratch—no step-by-step wizards here—using the intuitive toolbars and the designer's own creative skills. The program delivers several robust features that will certainly please experienced desktop publishers. It lets you group multiple publications into a single project for convenient access, for instance, and it supports synchronized text, so you don't have to revise minor changes to identical content in several different publications. The program also comes bundled with the QuarkVista Xtension, a plug-in that delivers extensive image editing capabilities. But QuarkXPress ships without a users manual, so new users will have to learn how to use these features by trial and error. If they get really stumped, they can take advantage of Quark's offer of free phone and email tech support.

In the end, the best thing about QuarkXPress 6.5 is that it's available as a free upgrade to version 6.1. Long-time QuarkXPress users should certainly take advantage of the offer, as its additional capabilities will extend the usefulness of the program until Quark can release QuarkXPress 7.0. New users, on the other hand, are better off investing their DTP dollars elsewhere.

Adobe InDesign CS2

Among graphics professionals, there is little doubt about which DTP program is best. Adobe InDesign CS2 matches or beats the competition in virtually every facet of the game, starting with setup. Installation was smooth; activation took seconds; and updates were handled automatically. The interface is clean and intuitively organized with floating palettes that lock together as palette groups for convenience. Most impressively, the program can remember your workspace configuration so that you don't have to re-establish it each time you start a new project.

Like QuarkXPress, InDesign is geared toward experienced users who need to produce high-grade publications. Its various control mechanisms let you tweak every aspect of a document. Better yet, it provides numerous convenient features that help you get the details right with minimal effort. The Snippets feature, for instance, lets you save a group of objects as an individual file that you can incorporate into future publishing projects. The Last Line Right Indent function aligns the last line in a paragraph to a common point, eliminating the need to adjust spacing in a menu or table of contents. Plus, InDesign automatically resizes large high-resolution images to dimensions that are more appropriate for the current publication. And the list goes on. Priced at $699 as a standalone product or $899 when bundled with Adobe Creative Suite 2, InDesign is a bargain for DTP professionals. It even comes bundled with a hardcopy users manual.

So what's not to like? Very little if you're a graphics and design pro, but casual users will likely complain about the program's price, its lack of wizards and other guided features, the cost of tech support ($39 per incident or $159 annually), and the system requirements. For best results, your PC should have at least 320MB of RAM. (Other programs in this review require a scant 128MB of RAM.)

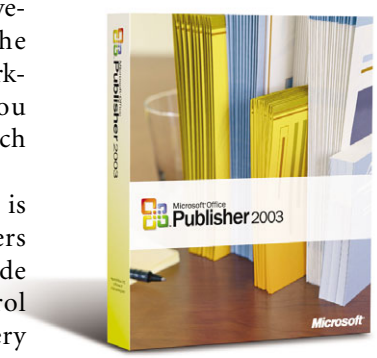
Know Your Needs

All things being equal, the best DTP program currently on the market is Adobe InDesign CS2. Of course, all things are not equal, and the fact is that home and small-office computer users will get along just fine with the modestly priced and fully capable Microsoft Office Publisher 2003. For this reason, Publisher 2003 slightly edged out InDesign and earned the Smart Choice designation this month. ❚❚

BY JEFF DODD

Buying Tips

When shopping for DTP software, take a moment to consider your other software needs. You'll get a better deal by purchasing a suite of bundled programs, such as Microsoft Office or Adobe Creative Suite 2, than purchasing two or three of the bundled programs at separate times.



December 2005
Smart Choice
Microsoft Office Publisher 2003

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The sleek, free-flowing lines of Sanus Platinum furniture reflect the beauty of today's digital televisions. And the newest addition, model PFFP flat panel TV stand, opens up possibilities to mount a flat panel television anywhere. An extruded aluminum column extends rigid strength from the steel-framed base to handle flat panel TVs up to 50". The Virtual Axis™ tilting system provides smooth motion with the touch of a fingertip. And features like a hidden cable channel, an adjustable glass shelf and a custom blended silver finish provide the perfect finishing touches to this innovative flat panel TV stand. So if your home theater is short on wall space, your options are now wide open.

SANUS | SYSTEMS

THE UNION OF FORM AND FUNCTION

800.359.5520 www.sanus.com

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Plasma TVs are really making waves. So how do you choose a mount worthy of the splendor of a plasma TV? Easy. Choose a VisionMount™ flat panel TV wall mount from Sanus. Its simple elegance gives you one of the strongest, most durable mounts...with installation completed in just minutes. And the Virtual Axis™ mechanism allows you to adjust the tilt with an effortless fingertip touch...even if your TV weighs 175 pounds. So wherever your plasma TV is destined to be, VisionMount can easily handle your installation and positioning needs, and you can spend your time reflecting on the real beauty of your home theater.

VisionMount™ model VMPLb shown. Fits virtually any flat panel TV from 32" up to 60". Available in black and silver.

SANUS | SYSTEMS

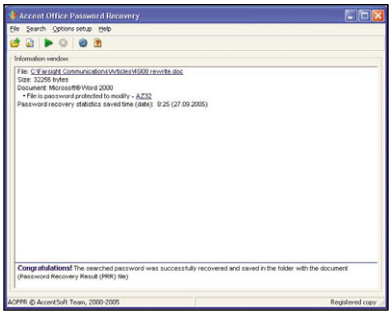
THE UNION OF FORM AND FUNCTION

800.359.5520 www.sanus.com

Open The Door To Password Recovery

Accent OFFICE Password Recovery

$50 (home use)
AccentSoft
info@accentsoft.com
www.accentsoft.com



If you've ever lost access to a Microsoft Office document because you password-protected it and then forgot the password, you know the frustration that comes with security. Passwords are great—they prevent roommates, children, or co-workers from accidentally modifying important files or seeing things they shouldn't. They also make it more difficult for thieves to access your sensitive information.

However, Office does not provide a password-recovery option. This shortcoming spells trouble if you ever forget a password or inherit a file with an unknown password.

Accent OFFICE Password Recovery is a password snoop that determines the password of an Office document (Word, Excel, and Access only) so you can open or modify it. In testing, it took about a minute to recover a basic, four-letter password we created.

Accent OFFICE Password Recovery uses one of three recovery methods—dictionary based (if you think the password was a real word), brute force (which tries all possible combinations of characters in the language you indicate), and brute force with a mask (an approach in which you provide some assistance, such as that the first two characters were numbers or the last character was a Z).

If you select brute force only, Accent OFFICE Password Recovery will still ask you for help if available, such as eliminating numbers from the list of possible combinations if you know you used only letters. It also asks you to define the password's potential length. (This can be unlimited, but the longer the potential password, the more time Accent OFFICE Password Recovery will take to pinpoint it.)

Password recovery is a difficult business, and you should provide all the help you can, but don't remove a criterion unless you are certain of it. Using the example above, if you eliminate numbers from the search combinations and your password contains even one number, Accent OFFICE Password Recovery's efforts will fail.

Accent OFFICE Password Recovery is a fascinating program to watch in action, as the interface window displays actual combinations as the program creates and tries them. (This is how hackers attempt to access stolen sensitive information, so it also shows how easy it is to break simple passwords.) When Accent OFFICE Password Recovery determines your password, it displays it in the interface window with a link you can click to copy the password to the clipboard for easy retrieval.

Accent OFFICE Password Recovery offers a free trial, but it is limited to four-character passwords. This is unfortunate, as it doesn't give you a free opportunity to see how effectively the program can decode strong passwords (complex combinations you might create, such as A2p_6jQ-C9rt). Additionally, it has a few quirks we don't like. First, if you want to use dictionary-based decoding (where the program tries all the combinations in a particular dictionary), you have to go online, download (and possibly purchase) a dictionary, and then load it into the program.

The reasoning, we assume, is that you can opt for a specialty dictionary if your password came from a particular set of jargon. Nevertheless, the program should provide a basic dictionary, which would suit many users just fine. Because it doesn't, we would opt for brute attack every time to avoid the hassle of locating a dictionary.

Second, if you password protect both the open and modify functions of a document with separate passwords (Office documents offer this option), you must open the document and remove the open password before Accent OFFICE Password Recovery can locate the modify password. This is a real pain, as it sets up a paradox. If you do not remember the modify password, you can open the document (using the newly retrieved password) but not modify it, which means you cannot remove the open password.

To circumvent this issue, you must mark the document as read only, save it with a different name, and have Accent OFFICE Password Recovery work on the new file. It would be nice if the program provided a script, or at least a walk-through wizard, that would facilitate the execution of this process. ■

BY JENNIFER FARWELL

Scorecard

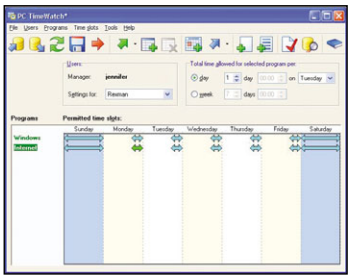
Performance 5
Ease Of Use 3
Installation 5
Documentation 2
Price 2
Overall Score 3.4 / 5

Family & Education

Time Manage Your PC & Its Users

PC TimeWatch

$39
MainSoft Software
support@mainsoft.fr
www.mainsoft.fr/en/home.html



Scorecard

Performance 4
Ease Of Use 4
Installation 4
Documentation 3
Price 3
Overall Score 3.6 / 5

In one-PC households, the computer has assumed the status the bathroom held 40 years ago: Everyone needs to use it at the same moment, and siblings fight over who gets to use it next. Put a stop to arguments over computer usage with PC TimeWatch.

Unlike nanny programs that record a child's activities, PC TimeWatch controls when and how he uses the computer. The program administrator can designate specific time slots, a set number of hours, or a cumulative hourly total during which individuals can log on to Windows or the Internet or run designated programs. When time on a particular session is up, PC TimeWatch exits any restricted program and closes the window.

PC TimeWatch works using a calendar-based interface and shows at a glance what restrictions are in place. It works with the Windows login system, which means all users will need their own, limited-access account before access control will function.

The appeal of PC TimeWatch extends beyond the time-management concerns of a one-PC household. It can force children squirreled away in their rooms to stop playing Space Aliens at 7 p.m. (although the program cannot make them do their homework). It can prevent roommates from using an office-loaner PC in your absence, and it can stop bored employees from chatting online. Activity reports make it easy for the administrator to see who has done what.

PC TimeWatch does not control activities that occur within the bounds of program usage, so you cannot, for example, enable a child to perform research online but prevent him from playing online games. Nevertheless, if you want to restrict access across the board, PC TimeWatch may suit your needs nicely. A free, 21-day trial gives you ample opportunity to find out. The company is based in France, so phone support is not practical. However, a downloadable manual and helpful user forums (www.mainsoft.fr/Forums) are available to assist you. ❚❚

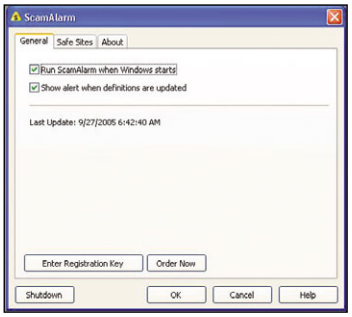
BY JENNIFER FARWELL

Security

Avoid Internet Scams & Frauds

ScamAlarm

$29.95 (with one year of updates)
CollectiveTrust Solutions
scamalarm@collectivetrust.com
www.collectivetrust.com



Scorecard

Performance 4
Ease Of Use 5
Installation 5
Documentation 3
Price 3
Overall Score 4 / 5

Identity theft, online fraud, and **phishing** (sending spoofed emails that request you provide personal information at fake but legitimate-looking Web sites) are on the rise. Making matters worse, scam artists and phishers are becoming more proficient at making their offers look real. If you're tired of separating the good guys from the offenders, you can install a program such as ScamAlarm, which will perform online security checks.

Like many antivirus programs (which ScamAlarm is not), ScamAlarm uses a multipronged approach to identify fraudulent sites. Its first line of defense is a continuously updated list of dangerous sites. If a site passes that scrutiny, ScamAlarm analyzes its content and compares it against a complex set of rules. If a site the user is trying to visit is a known threat, or if it fails ScamAlarm's security checks, the program immediately notifies the user.

According to ScamAlarm reps, this contextual analysis and comparison against recognizable behaviors is what sets ScamAlarm apart. The questionable site lists and heuristic rules that ScamAlarm employs are maintained by CollectiveTrust's in-house TrustBureau.

The TrustBureau uses a combination of user reports, analyzed (for spam) URLs, industry fraud data, and information from **Web crawlers** (engines that seek out and record questionable sites) to create its lists and rules. So confident is ScamAlarm of its capabilities that it offers a 100% money-back guarantee.

ScamAlarm works only with Internet Explorer 5.5 or NetCaptor 7.5 or later. The program runs totally in the background and has very few user-definable settings. However, in addition to the internal blacklist ScamAlarm maintains, it lets users create a whitelist of sites that are exempt from scrutiny. Be cautious about placing sites on this list: Once added, their activities, no matter how suspicious, will not raise a red flag with ScamAlarm. ❚❚

BY JENNIFER FARWELL

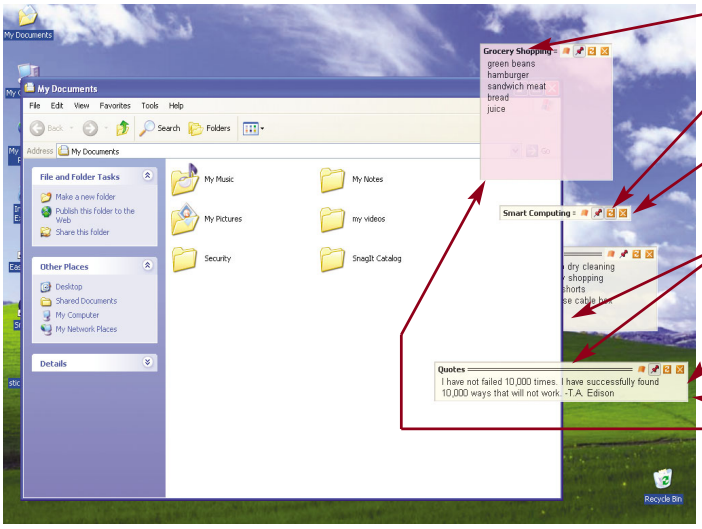
Stick It To 'Em

Easy Notes 4 vs. Quick Notes Plus 5.0

Many of us have come to rely upon the little yellow notes stuck to the sides of our monitors that list things to do, items to pick up from the grocery store, or even inspirational quotes. When kept under control, these notes are fine. But sometimes, they start to take over. Replace your paper notes with sticky notes software. Two such programs are Easy Notes 4 ($19.95; www.rawos.com) and Quick Notes Plus 5.0 ($24.95; www.conceptworld.com). Easy Notes 4 offers users the ability to make notes on a calendar and to keep track of

Easy Notes 4

Notes For Your Desktop



Change the title for your note to make it easy to identify.

Roll up a note to collapse it and save Desktop space.

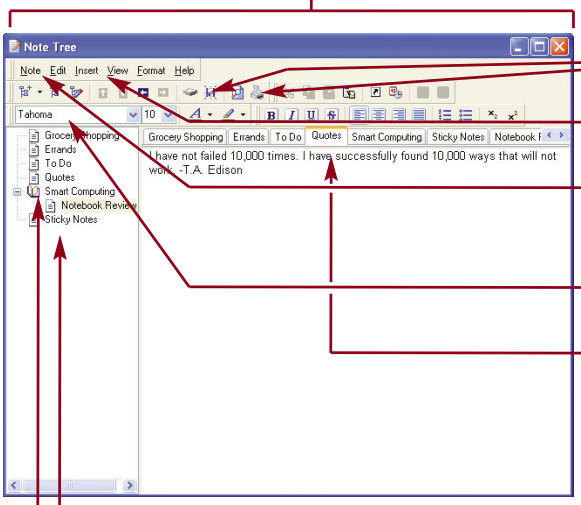
Delete a note by sending it to the Easy Notes trash bin where it can be retrieved if necessary.

Set display options with each note to select whether a note is always on top of anything else displayed.

Resize your notes to fit their content and available space on your screen.

Select various colors for your notes to help in organization.

Other Ways To Post Notes



Easy Notes 4 has a Note Tree that lets you create and compile all of your notes in one location instead of posting them on the Desktop.

Print notes or save them to an RTF (Rich Text Format) document.

Insert a symbol or a link to another file within your note.

Create new notes, including notes from other files such as a Word document or Excel spreadsheet.

Change the font and style information to fit each of your notes.

Toggle among notes using the named tabs.

Double-click a note to view it in the Note Tree.

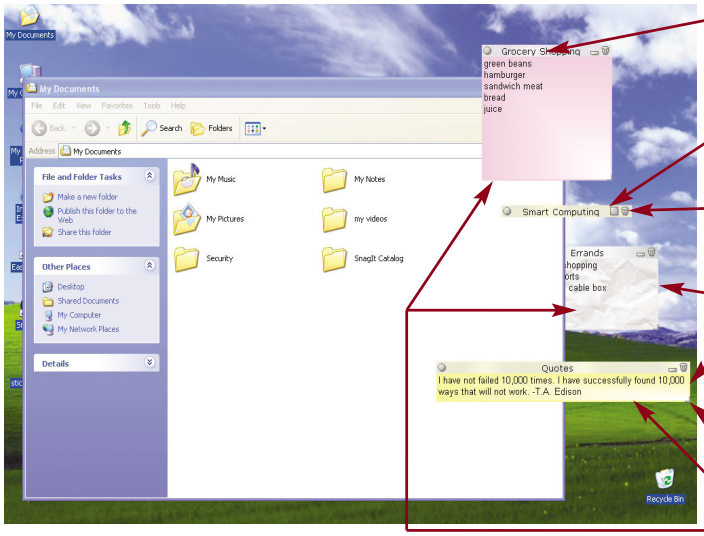
Organize your notes using groups with collapsible branches.

tasks within the program. With Quick Notes Plus 5.0, you can sync your notes with Outlook. Let's take a look at some of the similar features between the two programs. ■

BY JENNIFER JOHNSON

Quick Notes Plus 5.0

Notes For Your Desktop



Notes can have individual titles to help distinguish them from other notes and icons.

Collapse notes to save Desktop space. This also makes them easier to organize.

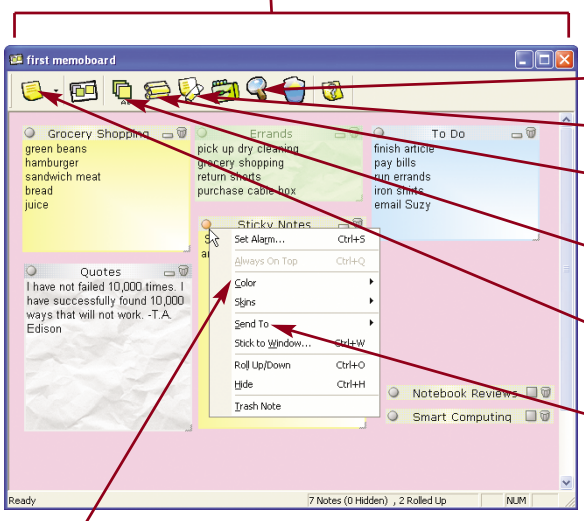
Deleted notes are moved to a Trash memoboard until a user removes them permanently.

Although there's no option to make individual notes permanently stay on top of everything on your screen, you can use the hide and show notes commands from the taskbar to bring your notes to the forefront.

Make the size of your note fit its content by resizing it as you like.

Quick Notes Plus 5.0 lets you set both color and texture preferences for your notes.

Other Ways To Post Notes



Arrange your notes on a virtual corkboard using the Quick Notes Plus 5.0 memoboard to keep notes off of your Desktop.

Search your notes to find specific information.

Show and hide all of your notes in the memoboard.

Roll up and down all notes in the memoboard to assist in organizing your notes.

Choose how to arrange your notes using sort commands and layout options.

Make a new note within this memoboard in your preference of colors.

Send a note from the memoboard to your Desktop or vice versa, so you'll see it in the place that's most helpful to you.

Using the Note menu, you can change the color and **skin** (graphical appearance) of a note to customize it to fit your needs.

IMPULSE ITEMS

Cool Stuff For $25 Or Less

Compiled by Joshua Gulick

See it, like it, buy it. Impulse Items are products that quicken your pulse and capture your attention but won't make you dig too deep into your wallet. Check these pages each month for the latest interesting and inexpensive computing items we've run across.

Binary Clock

Remember when geeks weren't cool? Thanks to digital cameras, finicky computers, and other gadgets that require expert repair, the nerds of yore get plenty of respect now. But not everyone who claims to be a computer expert is telling the truth, so Cyberguys.com (www.cyberguys.com) is selling a clock that quickly separates the geeks from the wannabes. This clock displays the time in binary code, which is a computer code that consists of 1s and 0s. If your favorite techie often scoffs at lesser geeks, let her show her pride with this clock. You can find the Binary Clock in black and red ($19.49) or Crystal Blue ($23.95) by clicking Cubicle Accessories, Desk Accessories, and View All.

Computer Cookies

This is a good year for techies who hang stockings on Christmas Eve. Computer Gear (www.computergear.com), which sells a variety of computer gadgets and apparel, has a new stocking stuffer: Computer Cookies. Young techies will love these boxes as much as you used to love those colorful boxes of animal cookies as a kid. Each box boasts several computer shapes, such as computers, mice, and Desktop icons. Buy six boxes of these lemon butter "byte-sized" cookies for $19.99.

Suspenders

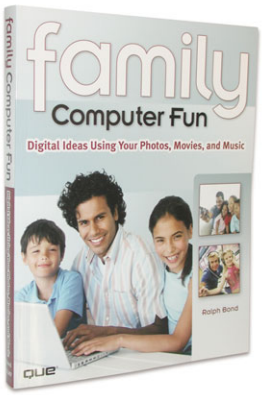
If you're a veteran Web surfer, show off your knowledge of Internet shorthand with Bytes N' Grins Internet Language Suspenders (stores.yahoo.com/bytesngrins). The suspenders have Internet browser icons; the famous @ symbol; and plenty of IM (instant message) phrases, such as TTYL (talk to you later), BTW, (by the way), and IMO (in my humble opinion; the less-cheeky version of IMNHO, which translates to in my not-so-humble opinion). Find these fun suspenders in the Computer Theme & Novelty Wearables section. Bytes N' Grins sells the Internet Suspenders and several other geeky suspenders for $8.95.

Classically Trained T-Shirt

Modern video games have near-lifelike graphics and let users explore 3D cities and kingdoms, but the older gamers among us will never forget the squat, gray box that flooded the gaming community during our youth. Sure, Nintendo games generally featured a fuzzy blob that ran (or bounced) from the left side of the television to the right, but back then, those graphics were phenomenal. If you're buying gifts for someone who hearkens back to the days of the old Nintendo game console, check out this ChoiceShirts (www.choiceshirts.com) Classically Trained T. ChoiceShirts sells the T-shirt in M, L, XL, and 2XL for $19.95.

"Family Computer Fun"

A few years ago, email was the hot communication tool—now it's video chat. Today's computers are more powerful entertainment centers than they were a decade ago, and some users find that their children are once again learning neat computer tricks faster than they are. Many families store their music, pictures, and even video on computers now, and software publishers have been quick to provide tools that let users get more from their digital treasures. If you're nervous about editing photos, holding a video chat with a family member, or buying music online, take a look at Que Publishing's "Family Computer Fun" book ($24.99; www.quepublishing.com). This well-written book includes step-by-step instructions, screen shots, and photos.



Buzz Bites

Gamers and college procrastinators often find themselves pulling overnighters in the name of a fun game or a passing grade. Although we don't promote this sort of behavior, you can, with Vroom Foods' (www.vroomfoods.com) latest energy-packed candy. Buzz Bites Chocolate Energy Chews, which come in tins of six, have loads of caffeine. In fact, according to Vroom, a single chew has as much caffeine as a cup of coffee. Buy a tin of these chocolate stocking stuffers for $3.99.

Duct Tape Tie

We geeks may not see eye to eye with the rest of the fashion world, but we know a cool tie when we see one. And, trust us—you'll command plenty of respect with Computer Gear's Duct Tape tie ($24.99; www.computergear.com). The ultimate fix-it tool makes for a snazzy, silver tie that will match your duct tape wallet and your date's duct tape purse. (You do have a duct tape wallet, don't you?) We were surprised to find that the removable tie's neck strap relies on hook-and-eye stickers to secure the ends of the tie behind the wearer's neck. (Well, maybe duct tape can't do everything.) Nevertheless, it's a sight to behold and should be in every geek's closet. (Deep in the closet, nongeeks might argue.)

You've Got The Power (Management)

Windows XP's power-management options are designed to help you minimize the power your computer uses when it's idle, without your having to think about it or having to wait for your PC to restart when you return to work.

Why minimize your computer's power consumption? If you're running a laptop off a battery, the answer is obvious. But even if you're running a desktop PC, power management is worth considering: It can reduce the power your computer uses by about half.

As you've no doubt noticed, WinXP uses certain power-management settings by default. We'll explain those settings and how you can tweak them to best balance energy savings and your working style.

The Language Of Power

Click Start, choose Control Panel, and double-click Power Options. The Power Options Properties dialog box will appear with the Power Schemes tab selected. The settings in the lower half of the tab describe the progressive power-conservation steps Windows can take the longer your computer is idle (that is, the longer it has been since you last pressed a key or moved your mouse). To make the best use of these settings, it's important to understand what each does.

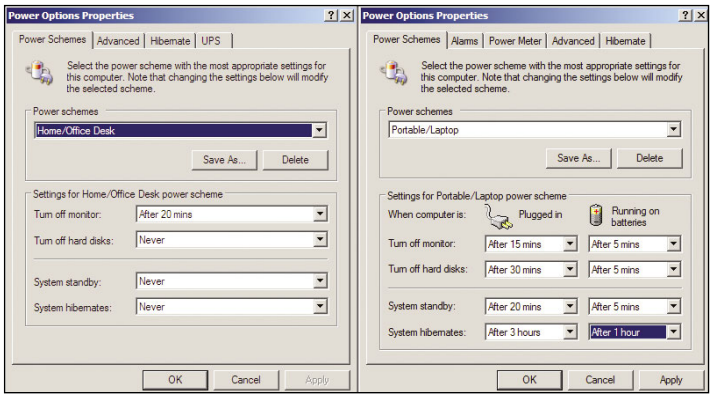
The Turn Off Monitor option is a tad misleading: It darkens your monitor without turning it all the way off. (You'll know the monitor is still technically on because the green light next to or on your monitor's on/off button will turn yellow instead of going off entirely as it would if you actually pressed the button to turn off the monitor.) A typical CRT (cathode-ray tube) consumes about 80 watts of power, while a typical LCD (liquid-crystal display) consumes 35 watts. In the Turn Off Monitor mode, both consume 15 watts or less.

When your monitor slips into Turn Off Monitor mode, you can turn it back on again by moving the mouse, clicking a mouse button, or pressing any key on the keyboard.

The Turn Off Hard Disks option stops any internal hard drives from spinning. (If you have a portable or external hard drive connected to your computer, it will continue to spin under this setting.) Your hard drive is the only moving part inside the computer other than the fan: Turning it off has the next biggest power-saving impact after turning off the monitor. You can restart the drive—and regain working control of your computer in two or three seconds—by pressing any key.

Setting your monitor to turn off after x minutes of inactivity and your hard drive to turn off after, say, x+10 minutes saves almost as much power as Standby mode but lets you get back to work faster.

System Standby puts your monitor in Turn Off Monitor mode (if it isn't there already), turns off everything within the computer (including your hard drives and your cooling fan), and powers down any USB devices that don't have their own power supply. The system uses only as much electricity as it needs to keep the information your programs are using in memory and to make your power light blink yellow (which signals that your computer is in Standby mode). To wake your computer from Standby, you need only move your mouse, click a mouse button, or press a key. Everything will turn back on, and within about 10 seconds, you'll see your Windows Desktop on-screen, exactly as you left it (unless you've set Windows to prompt you for a password after Standby; we'll teach you how to fix in a bit).



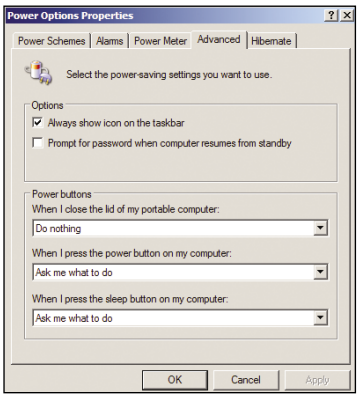
The Power Options dialog box for a desktop computer (left) and for a laptop or portable computer.

A typical desktop system uses between 125 and 150 watts of power, depending on the monitor and processor; the typical laptop uses between 15 and 45 watts. In Standby mode, either system draws just 3 to 35 watts.

System Hibernates puts your computer into a sleep that's deeper than Standby, but that's easier to wake from than a complete shutdown. In this case, WinXP copies everything in memory to a file on the hard drive

and completely shuts the computer down. (A hibernating laptop consumes no power; a hibernating desktop consumes only as much as the monitor consumes in Turn Off Monitor mode.) To restart a hibernating computer, press the Power button, just as you would when starting the computer—but instead of going through its full startup procedure, the computer uses the information saved in memory to return you to your Desktop as it was before hibernation. The whole process takes anywhere from 10 to 30 seconds or so—a tad longer if you must first get past the WinXP logon screen—which is considerably less time that it takes to start Windows from scratch.

If you don't see the System Hibernates option, select the Hibernate tab, check Enable Hibernation, click Apply, and return to the Power Schemes tab.



By tweaking the advanced power settings as shown, you can prevent your system from going into standby when you accidentally close your laptop lid (or press the lid switch); press the Sleep or Standby button (which many newer keyboards have); or press your Power button.

Tailoring The Default Power Schemes

Now you're ready to tweak WinXP's default power schemes to minimize power consumption while better matching your computing style.

A more energy-efficient home desktop. In the Power Schemes drop-down menu, select Home/Office Desk (if it isn't chosen already). These default settings are less suited to home than to the office, where getting back to work quickly is key and people tend to turn off their computers before going home. At home, you can take additional power-saving measures without inconveniencing yourself too horribly. For example, you could set System Standby or System Hibernates to After 4 hours, thereby ensuring that you never leave the computer fully powered overnight. And if use of the home computer tends to be infrequent and periodic, you might also try setting both Turn Off Monitor and Turn Off Hard Disks to 20 minutes.

A cooler desk-bound laptop. For your plugged-in laptop, under Power Schemes drop-down menu, choose the Portable/Laptop scheme (if it isn't chosen already) and take a look at the settings under Plugged In. You're probably wondering why Turn Off Hard Disks is set to occur later than System Standby (which turns off the hard drives). There is no reason: In every case we can imagine, you'll want to turn your hard drives off before Standby, instead of Standby, or not at all. Take this opportunity to change Turn Off Hard Disks to Never.

You might also wonder why a plugged-in laptop has to rush to Standby after 20 idle minutes. In this case, there is a reason: heat. Laptops get hotter faster than desktops, and if they're going to sit idle, they might as well cool down, too. So leave this setting as it is.

Minimizing battery drain, maximizing productivity. If necessary, select the Portables/Laptop power scheme and check the settings under Running On Batteries. How you configure these settings depends on the type of work you do while the notebook runs on batteries, but these days, more and more mobile users prefer to have their monitors and hard drives shut down after relatively few idle minutes and to go manually into Standby (click Start, Turn Off Computer, and Standby) or Hibernation (click Start and Turn Off Computer, hold down SHIFT, and click Hibernate). This uses a minimum of battery power on idle computing and a minimum of time restarting the machine.

Once you make your settings changes, be sure to click Apply or OK.

A must for any computer. You can save time by changing your Advanced Power settings. Click the Advanced tab. If you have a laptop, under When I Close the Lid of My Portable Computer, select Do Nothing. No matter what kind of computer you have, in both When I Press . . . fields, select Ask Me What To Do, so you never put your computer on Standby or Hibernation unless you really want to. Also, if you'd rather not see the password screen every time you recover from Standby, while you're here, deselect Prompt For Password When Computer Resumes From Standby. Click Apply or OK.

What About My Screen Saver?

One of the most frequently asked question about computer power management is how much electricity a screen saver saves. The answer is none: Your screen saver requires memory, hard drive activity, and screen display. In fact, your screen saver doesn't even save your screen. Screen savers were designed to prevent burn-in in the monochrome monitors of yesteryear; today's color monitors don't have that problem. So if your screen saver isn't wildly entertaining, it's doing nothing for you at all. ■

BY MARK SCAPICCHIO

Manage Windows 2000 File & User Permissions

When multiple people in a household share a computer, it's often desirable to control access to certain types of information: You may not want a houseguest snooping through personal correspondence, for example, or have the kids playing with the Quicken file.

If you use Windows 98, this presents a problem—one of the operating system's notable shortcomings is its complete lack of file security. In Win98, although you can use the User Profile feature to provide each user on a system with his own customized environment, the file system (called FAT, or file allocation table) can't govern user access to particular files or folders. (A more advanced file system used in Windows Me and some Win98 systems, called FAT32, suffers from the same limitation.)

The good news is that Windows 2000 (and Windows XP, for that matter) offers a more advanced file system, called NTFS (NT file system) that can correct this oversight. NTFS gives you the ability to protect information on your computer by creating individual user accounts and then specifying access permissions for folders or even individual files.

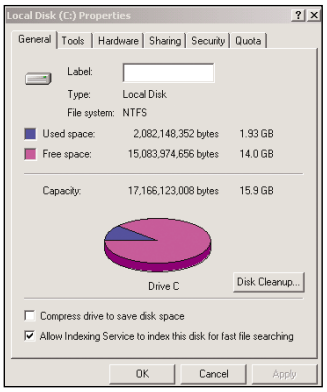
Get The FAT Out

Win2000 doesn't automatically use NTFS by default, so the first step to enabling file permissions is to make sure that your system isn't still using FAT. To do so, you need to look at the Properties dialog box of your hard drive partitions. (Note that if you're installing or upgrading to Win2000 for the first time, you'll be given the option to use NFTS during the setup process.)

To check for NTFS on an existing system, double-click My Computer, right-click the C: drive, and select Properties. The partition's file system will be displayed above the Used Space figure. If it says NTFS, you're ready to roll, but if it says FAT or FAT32, you'll need to convert it to NTFS before proceeding. If you have multiple hard drive partitions, be sure to check all of them because any partition on which you want to use file protection needs to be running NTFS.

Before converting your partitions to NTFS, be sure you're not dual-booting between Win2000 and Win98 or WinMe on the same system. Neither Win98 nor WinMe can read NTFS, so they'll be unable to access partitions after the conversion process, which, incidentally, isn't reversible.

To convert a FAT or FAT32 partition to NFTS, click the Start button, select Run, type **cmd**, and press ENTER to bring up a command prompt. Next, type **convert x: /fs:ntfs** (where x is the letter of your drive partition) and press ENTER. (You'll need to run the convert command separately for each partition.) After running a conversion command, you may receive a message saying that the CONVERT utility can't gain exclusive access to the drive; this will occur when an application is using the drive or when you try to convert the partition that contains the operating system. If this happens, you'll be asked if you wish to schedule the conversion to take place after the next system reboot, so select *Y* and reboot the system.



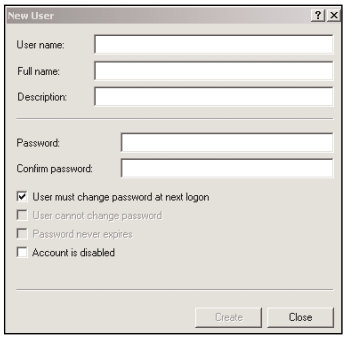
Before you can configure folder permissions on a hard drive partition, check the partition's Properties dialog box to make sure it's running the NTFS.

Create User Accounts

As soon as your system is using NTFS, set up a separate user account for each person who will have access to the computer. Start by logging in to the system with an administrator account and clicking Start, Settings, and then Control Panel. Next double-click the Administrative Tools folder and click the Computer Management icon. Finally, double-click Local Users And Groups on the left side of the window and then select the Users folder that appears—this will display existing accounts on the right side.

To create a new user account, right-click anywhere in the white space on the right side of the window and select New User from the context menu that appears. First, enter a username into the appropriate field, and because the purpose of creating separate user accounts is to

provide file security, you should also specify an easy-to-remember-but-hard-to-guess password and confirm it in the Confirm password field. If you want to specify a particular password for the user, be sure to clear the check mark next to User Must Change Password At Next Logon. Otherwise, he will be required to replace your password later. Another option is to leave the password fields blank when you create the account and leave User Must Change Password At Next Logon selected—this will allow users to create their own passwords without you having to provide a temporary one in order to access the system for the first time.



Specify a username and password for each account you create. Remember this information, because unlike Windows 98, you can't bypass the login in Windows 2000.

Be aware that while the administrator can't look up another user's password, he can change any user's password at any time by right-clicking the user account and selecting Set Password.

Set Permissions

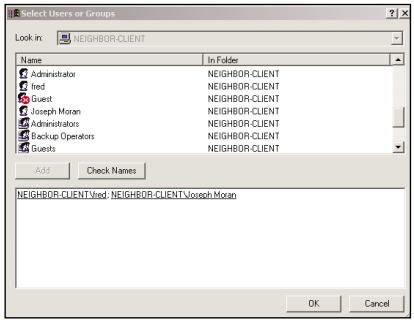
After your user accounts are set up, you can begin configuring access permissions on your system. The easiest way to start this is to open up My Computer and then double-click a drive icon to display the folders within.

To set permissions for a particular folder, right-click it, select Properties, and then click the Security tab. When you first check the permissions of a folder, you'll probably notice that a group called Everyone has unrestricted access to it. Some specific system folders (such as the Winnt folder, which contains the operating system files) will have more restrictive default permissions, but most folders—including any new ones that you create—will automatically be accessible to the Everyone group.

Naturally, making a folder available to everyone doesn't really provide any real security, so the goal here is to reduce that access to a specific user or users. To change the default permissions, click the Add button, which will bring up a dialog box called Default Users And Groups. The top half of the dialog box lists all the user accounts and groups that currently exist on the system—both the built-in accounts and those that you create yourself. Scroll down the list and select all the users you want to grant access to the folder. (You can select multiple users by holding down the CTRL key while clicking an entry.) After you've highlighted all the users to whom you want to give access, click the Add button, and once you see those names added to the lower half of the dialog box, click OK.

Now that you've added users to the permissions list of a folder (you can also apply permissions to individual files), it's time to specify the type of access they'll receive. There are six levels of folder access you can grant to a user, but many of them are redundant and designed to provide flexibility to corporate system administrators so we'll focus on just three. These are Read & Execute, which lets you load a document or run an application; Modify, which adds the ability to create new files or delete or change an existing file (such as updating a document and saving it under the same name); and Full Control, which provides complete and unrestricted access, including the ability to change permissions on a folder or delete any folders within a folder.

When you add users to a folder's access list, they will automatically get Read & Execute access to the folder's contents. If you want to grant Modify or Full Control permissions to a user instead, highlight the username and check the Allow box next to the level of access you want to grant. Repeat this procedure for each user to customize their access. It's also a good idea to make sure the access list includes full control for the Win2000 administrator account (or an account with administrative rights). When you're finished, remove the check mark from the labeled Allow Inherited Permissions From Parent To Propagate To This Object, and click Remove. This will prevent permissions from higher folders from overriding the permissions you specify, and it will also remove the Everyone group from the list. Click OK.



Select the user accounts you want to configure access for from the list provided and click OK to add them.

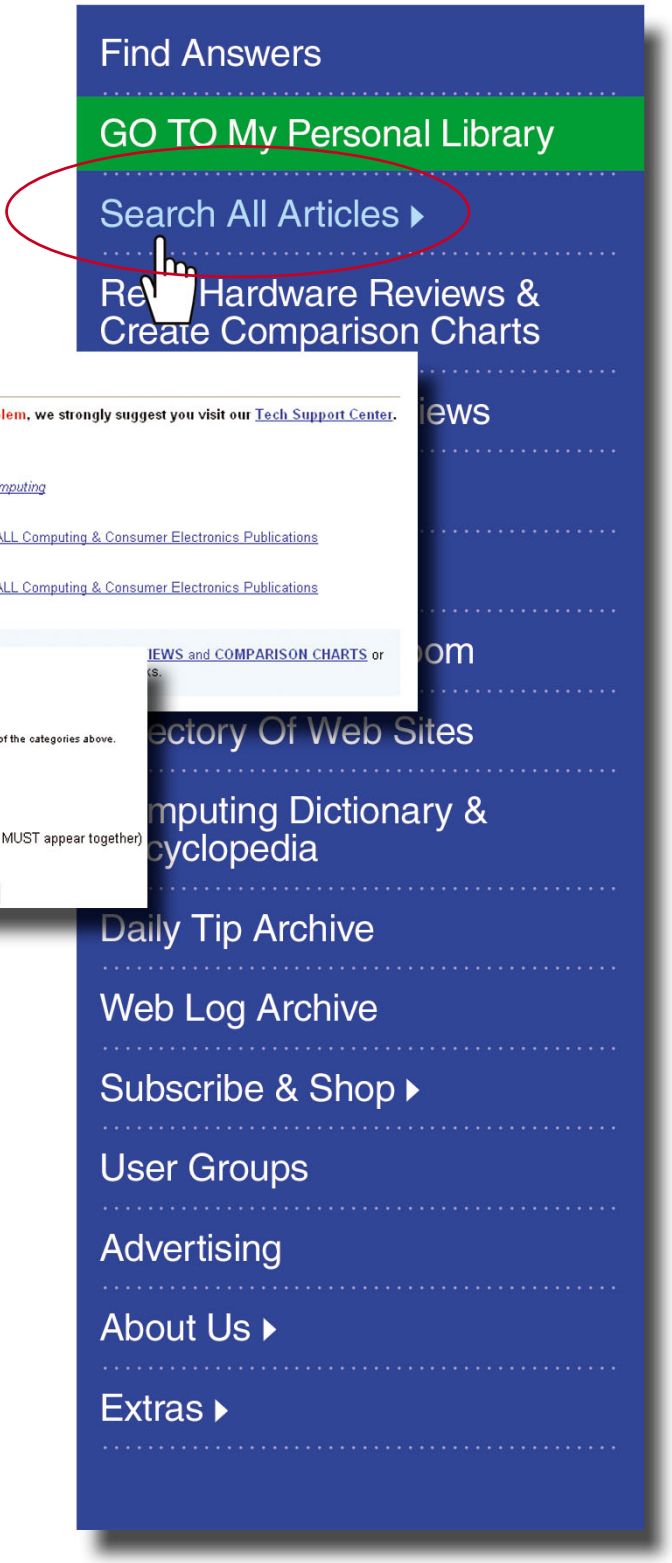
Be Sure It's Secure

With Win2000, you can create user accounts with real security and make sure that private files remain private. When a user opens a folder, only the access you've defined for that person will be granted, and if a user isn't on the access list, he won't even be able to access the folder. ■

BY JOSEPH MORAN

Search All Articles

Looking for more information on Windows XP and Windows 2000? Search past articles at SmartComputing.com to find additional information from previous issues. You can also browse current issues, complete a three-step detailed search, or search by keyword. These features not only allow you to search articles from *Smart Computing*, but from *Computer Power User*, *PC Today*, *CE Lifestyles*, and *Processor*, as well. You'll find all kinds of tutorials, troubleshooting tips, and other information to help keep your Windows system running smoothly.



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Compiled by Kyle Schurman
Graphics & Design by Jason Codr

Dude, Where's My Car?

Asset Tracking Via The Web

Most parents of teenagers would agree: Few things are as nerve-wracking as handing your 16 year old the keys to the family car. Beyond the initial worries, such as her safe return home, are other concerns, including whether she's actually going where she told you she was. Many parents would find great peace of mind in knowing they could check on a young driver's whereabouts without leaving the house.

Such tracking technologies already exist. Although they're aimed at companies that need to keep an eye on a fleet of vehicles, at some point in the future, the tracking technologies will trickle down to consumers.

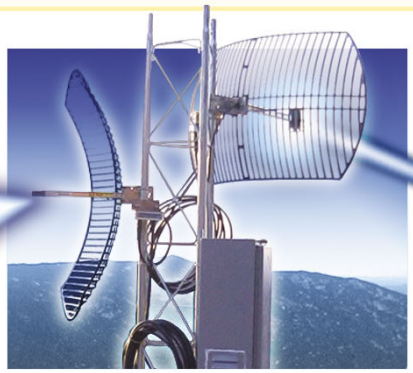
Even though your teenager probably will complain about how you're invading her privacy, using the tracking device on your own property doesn't equal a violation of privacy laws. Exactly what types of privacy laws will apply to using such tracking devices against other people's property, however, remains to be debated. ❚❚

GPS (Global Positioning System)

Most vehicle-tracking devices involve using GPS (global positioning system). A GPS-enabled hardware device is placed inside the vehicle. The device sends data about its location to a central network through a cellular telephone or satellite network. Eventually, customers or dispatchers can access the data regarding vehicles' locations via the Internet.

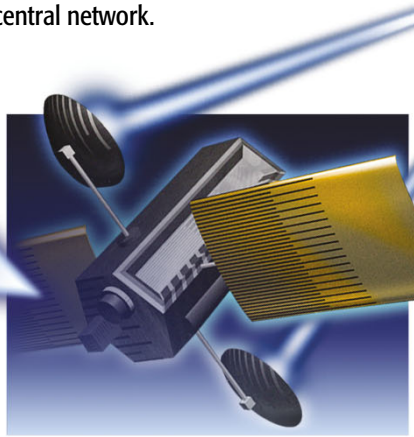
GPS devices used for vehicle tracking do require some special equipment to work properly, such as a battery pack and an antenna. However, technological improvements are shrinking the devices and equipment, making it easier to hide the devices on a vehicle or other item. ❚

1a. Hardware in the truck, called Coyote VLM, uses GPS technology to track the location, speed, and direction of the truck in which it's installed. The readings are taken once per second.



2. Once every two minutes, the Coyote VLM uses a cellular telephone connection to upload its readings to the service's central network.

1b. Similarly, the SkyRunner VLM hardware makes use of a satellite network (instead of a cellular phone network) to upload the data to the central network. SkyRunner VLM works best for trucks in rural locations where cellular network coverage might be spotty or unreliable.



Another Option

RTLS (real-time location systems) involves taking the idea of RFID tracking to another level by including active tracking of objects. (**RFID**, or **radio frequency identification**, is a method of placing a small tag in an object, allowing it to be tracked as it passes under or near an antenna.) Think of RTLS as a stronger version of RFID, with a few ideas rooted in GPS.

Some RTLS researchers say the technology could be used in bracelets to help schools keep track of students. Companies could use RTLS-enabled ID badges to make sure visitors aren't entering portions of the building where they don't belong. ❙

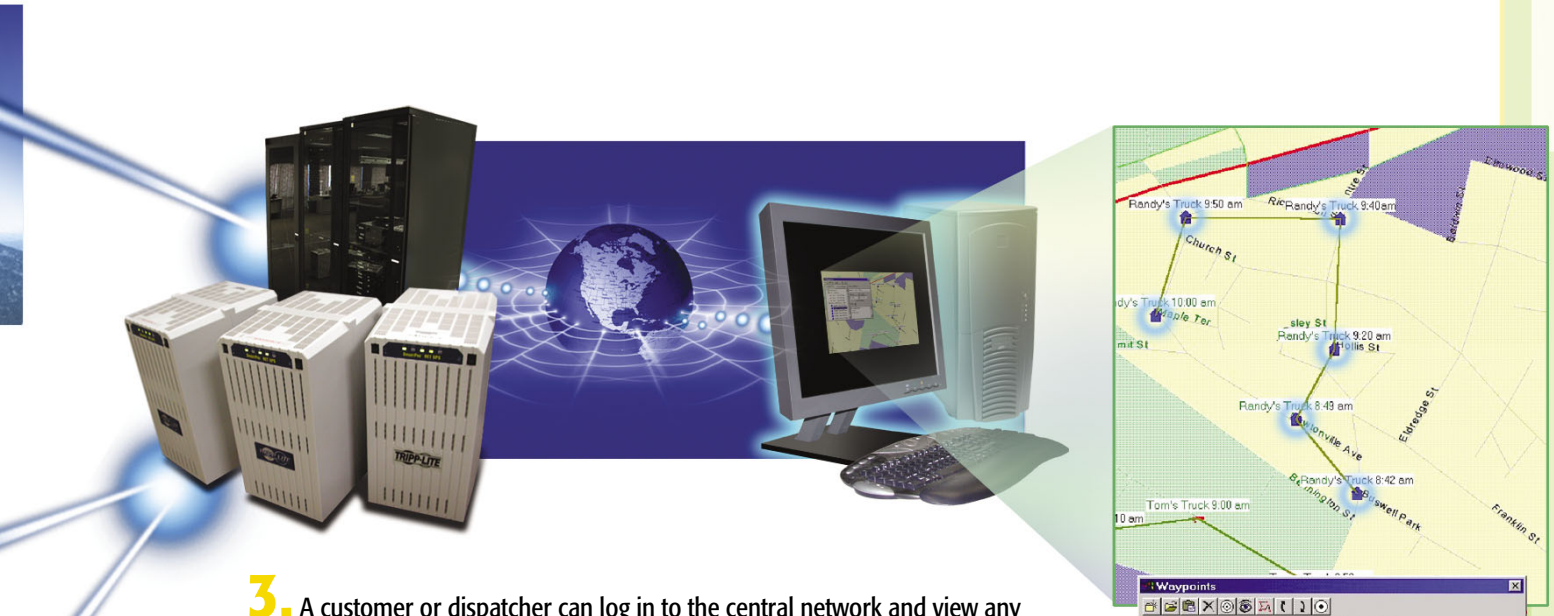
Tracking Is On The Way

RTLS isn't going to be able to keep track of the family car, though. GPS-type technologies will continue to improve and drop in price, giving people more and more useable options for tracking almost any kind of object. More and more companies are using vehicle-tracking systems, where the results are available via the Web.

It's only a matter of time before such tracking technologies become widely available to the average consumer, thanks in part to lower price points and greater product numbers.

Whether those who buy these products will be responsible with them and respect privacy laws isn't known. The same person who might spy on neighbors using a tiny video camera might be tempted to use this tracking device to see where the neighbor's vehicle goes all day.

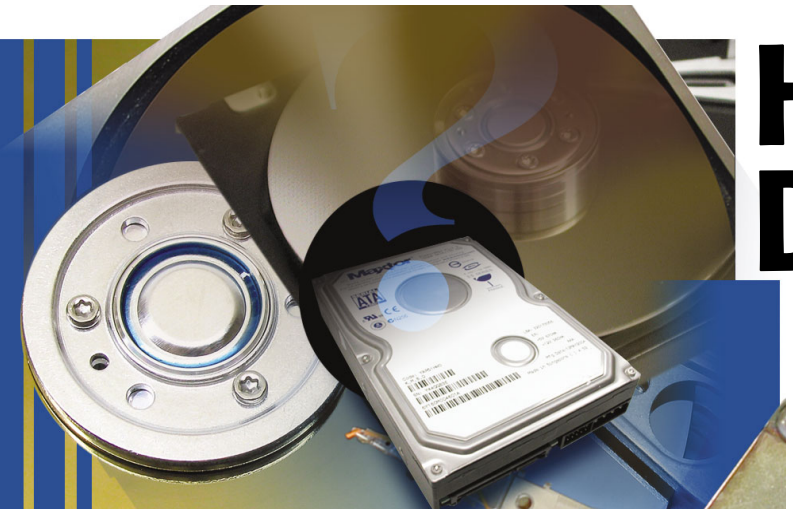
The debate over the legality of such tracking technologies figures to heat up as the technologies become more prevalent in the next few years. And we're guessing you won't need a covert device to track this debate; it'll be front and center. ❙



3. A customer or dispatcher can log in to the central network and view any data about the truck at any time. As long as the customer has an Internet connection, he can access the central network at any time of day.

The user interface will vary from product to product. The screen shot shown at right (from TeleType GPS) shows the location of two vehicles at various times during the day (indicated by the green lines on the right side of the window). Through a pop-up box, the customer can find additional and more specific information about each of the vehicles, such as direction and speed.

This overview of the TrackYourTruck service (a division of Cemtek Com; www.trackyourtruck.com) allows customers to track the position of a vehicle in real time, using the Internet and GPS.



Hard (Drive) Decisions

The Skinny On Technology, Purchasing & Maintenance

The arms of a hard drive place the read/write heads over the proper sectors of the platters. The heads read and write to the platters using magnetic signals.

Some Maxtor hard drives, such as the DiamondMax 10 6B300S0 HDD ($128; www.newegg.com), come equipped with 16MB of cache.

Seagate's Cheetah 15K.4 ($560; www.newegg.com) has a spindle speed of 15,000rpm.

In 1956, the IBM 305 RAMAC (Random Access Method of Accounting and Control) was invented. Championing a disk system called the IBM 350 Disk File, it was the first computer to have a hard drive. Instead of using magnetic drums to record information, the 350 Disk File used 50 disks, each 2 feet in diameter. Believe it or not, this option offered more storage in a smaller space than the drums used previously in hard drives. The 350 Disk File could hold 5 million 7-bit characters, or, in today's terms, about 4.4MB.

To say that we've taken a small step forward in hard drive development since the 1950s might be the understatement of the century. Now it's easy to find consumer hard drives that can hold up to 500GB, and instead of using 2-foot platters, these drives can fit in a 3.5-inch slot in your computer case.

Hard Drives 101

Like the IBM 350 Disk File, today's hard drives have disks, called platters, though they're generally about 3.5 inches in diameter, not a couple feet like their predecessors. They are attached to a motor that spins them very quickly. (Some can spin as fast as 15,000rpm [revolutions per minute].)

As these platters spin, your motherboard sends signals to the drive arms. Each arm has a read/write head at its tip. These arms move the heads to the location the motherboard instructs. The head then reads information and transfers it back to the motherboard or writes information using magnetic signals. One magnetic orientation represents a 0 in binary code, and its opposite charge represents a 1.

Your hard drive records data in circles on the platter known as tracks. It divides these tracks into smaller parts called sectors. When your OS (operating system) locates saved files, it requests the information using the track and sector address. The appropriate read/write head moves to the location of the data and reads the magnetized bits from the spinning platter.

How To Purchase

Though many of today's HDDs (hard disk drives) function similarly, not all are created equally. At the risk of sounding like a talk show host, finding a hard drive starts with knowing yourself. No, we're not sending you on a journey of self-discovery: Just be cognizant of your computing habits.

Though hard drives are getting slightly less expensive as new technology is released, these devices aren't exactly dirt cheap. Large capacity hard drives can easily run more than $400. Sure, your user group might be impressed when you show off the gigantic hard drive you just bought, but if you mainly use your computer for typing Word documents or checking your email, you really don't need to spend the extra money on a 320GB hard drive when an 80GB hard drive would be more than adequate.

If, however, you enjoy playing the latest video games or editing a lot of photos or video on your PC, you may need the extra space a large capacity hard drive offers. Before you buy, make a list of all the tasks you've been using your computer for and the tasks that you plan to use your computer for in the future. If your list includes a

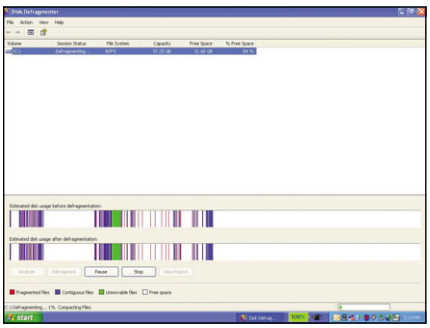
lot of multimedia and editing tasks or other space-hogging applications, plan on going with a bigger hard drive.

Sheer storage capacity isn't the only variable to take into consideration when looking for a new hard drive. Check your HDD for other factors such as its cache buffer, average seek and latency times, and its connectivity before you buy it.

Cache buffer. It may seem silly to think that the performance of a 200GB hard drive could be improved by a tiny 2, 8, or 16MB sector, but you should definitely check the amount of cache in a drive before you buy it.

A cache buffer saves the information you recently used; that way, if you need to use it again, the read/write heads don't have to search the entire hard drive. Instead, they search the cache first. If the information you need is there, your computer will bring it up.

You'll get a slight boost from a drive with 16MB cache rather than 8MB cache because the 16MB of cache can have more information more readily available, but don't let this statistic carry too much weight. If you find a 16MB cache comparably priced to a drive with 8MB cache, choose the one with the bigger number. However, hard drives move so quickly now (after all, read/write times are measured in milliseconds) that you shouldn't sweat it if the drive with the right capacity for you doesn't have the most cache.



Run Windows' Disk Defragmenter every few months to keep your hard drive running efficiently.

Average seek and latency times. Having a large cache buffer can cut down on your finger-twiddling time, but it isn't the only factor that can do so. When shopping for hard drives, take a look at average seek and latency times. A drive's **average seek time** refers to how long it takes the arm to position the head over a random track of data. Generally, this will be around 8 or 9ms (milliseconds). A disk's **latency** is one-half the time it takes for the platters to make one revolution. It is proportionate to the rate at which a platter spins. For instance, all hard drives that spin at 10,000rpm yield a latency of 3ms. There are other drives that can spin as fast as 15,000rpm. This gives you a smaller latency (about 2.0ms). If you're stuck between two hard drives with differing rpms and seek speeds, the performance increase you'll receive from a device with lower seek and latency times will be worth the extra money.

Make The Right Connections

When looking for a new hard drive, it also helps if you know what type of connections your motherboard supports. Generally speaking, there are two major players in internal hard drive connectivity: SATA (Serial ATA) and IDE (Integrated Drive Electronics), also referred to as EIDE (Enhanced IDE), ATA (Advanced Technology Attachment), DMA (direct memory access), or Ultra DMA. Check your motherboard: If you have at least one SATA port, we recommend going with a SATA hard drive. New SATA drives can theoretically transfer data up to 3Gbps (gigabits per second). Most IDE drives top out at around 133MBps (megabytes per second). If you have an IDE hard drive, but want the benefits of SATA, look for an IDE-to-SATA adapter. These plug into the IDE port on your hard drive and allow you to run a SATA cable from the adapter to your motherboard. The price difference

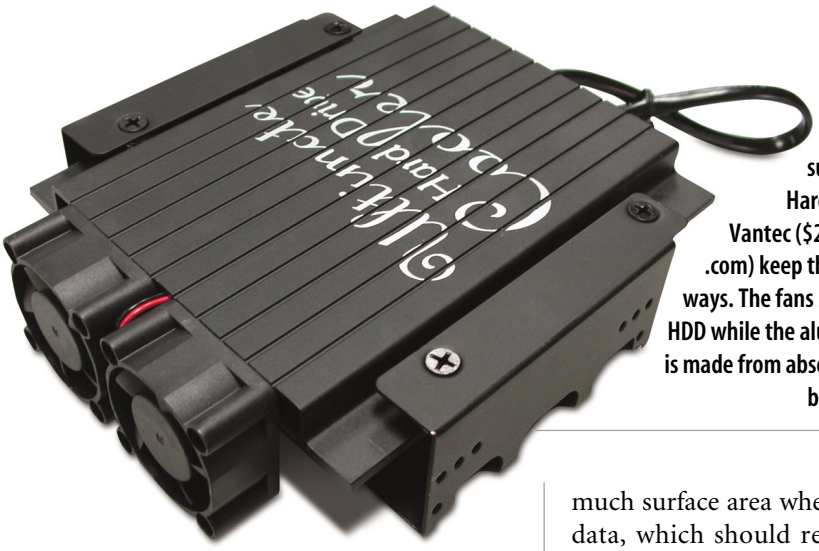
SATA: The New Drive On The Block

SATA (Serial Advanced Technology Attachment) technology made its debut in 2002, and though it's a few years old, SATA is still the new kid on the block as far as hard drive connectivity goes. With the features SATA provides, it appears this new kid is here to stay for a while.

The small size of SATA cables makes these drives handy for a few reasons. If you have a window on your case, the smaller cables make your case look much more organized. Bulky IDE cables are eyesores that plagued computer mods for too long. Switching an IDE cable in favor of the narrower SATA cable will remove a lot of visual pollution in your case and will allow the focus to shift back on your hardware, wiring, cooling, or lighting schemes.

Besides aesthetics, the smaller cable also promotes better airflow in your computer. Heat is your computer's worst enemy. If your case is cluttered with cables, it could be causing undue strain on your computer's guts. The smaller cables of SATA hard drives allow the air from your fans to cool your hardware better.

We couldn't find a glaring downside to using SATA devices. The main problem we encountered was that, because it made its debut after the release of Windows XP, some motherboards wouldn't recognize a SATA hard drive until we first loaded a SATA driver. While this varies with what motherboard and chipset you use, we noticed a pattern: Many AMD motherboards needed SATA drivers installed, while many Intel boards recognized SATA hard drives without us first installing the drivers. ❙



Hard drive coolers such as the Ultimate Hard Drive Cooler from Vantec ($24; www.frozencpu.com) keep the drive cool in two ways. The fans blow cool air to the HDD while the aluminum this cooler is made from absorbs heat produced by the drive spindle.

between a SATA hard drive and a comparably equipped IDE hard drive should be relatively insignificant. For more information on SATA, check out the "SATA: The New Drive On The Block" sidebar.

There are also SAS (Serial Attached SCSI [Small Computer System Interface]) hard drives available. These offer even faster transfer rates than SATA drives and usually have lower seek and latency times, but are considerably more expensive. Unless you have a server, there generally isn't a need to go with such an expensive alternative.

Maintenance & Care Tips

If you're going to invest in a new internal hard drive, do your best to protect your investment. Here are a few tips to help you get the longest life and best performance from your HDD.

Disk defragmenting. Regular disk defragmentation is a great way to keep your hard drive performing well. As space on a drive decreases with use, it often means that large files are broken up and stored wherever free space is available. Likewise, when we delete files, gaps are created between the sectors of our hard drives. Defragmenting your hard drive will remove these gaps and also consolidate the data from these large files. Because the newly defragmented data is compressed into a smaller portion of the drive, the heads of your drive don't have to cover as much surface area when searching for data, which should result in a slight performance increase.

Windows has its own defragmenting program. To start it click Start, Programs, and Accessories. Click System Tools and then select Disk Defragmenter. Click the drive you want to defragment and then click Defragment.

If you've ever run a disk defragmenter, you know it can take a while to defragment your entire drive. However, this isn't a task that has to be done every day. Martin Parry, product marketing manager for Maxtor, suggests, "How much defragging [a hard drive needs] depends on the PC's workload. For most people, once every three to six months would be a reasonable schedule."

Chill out. When it comes to computer performance, heat is a crippler. With platters spinning at such high rates of speed, hard drives add to this issue. This also compounds if you choose to run more than one hard drive. Typically, the stock cooling fans keep a system with one or two hard drives cool enough, but if you have room in your case to add another fan or two, it is a good idea.

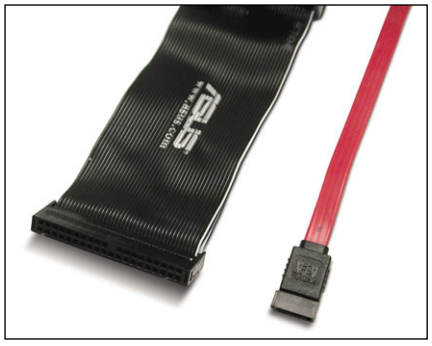
There are also coolers available that are made specifically for hard drives. Devices, such as the SilverStone Hard Drive Cooler ($29.99; www.tigerdirect.com), are aluminum covers with one or two fans in them. When your hard drive is in the cooler, the metal the cooler is made of will absorb the heat radiating from your drive while the fans will blow air on your hard drive, cooling it.

Hard drive deathbeds. No matter how well you care for your hard drive, there will come a day when it starts to fade. According to Michael Hall of Seagate Technologies, there are warning signs as to when your hard drive might go belly up. "Every disc drive has a feature called SMART (Self-Monitoring And Reporting Technology). Every little hiccup like a slow start, a retry on a read . . ., or a hard to read sector is cataloged and measured against thresholds. If any one [threshold] is exceeded, the system BIOS [Basic Input/Output System] will alert you. . . ." You should back up your hard drive regularly, but do so immediately if you receive one of these warnings, and plan on replacing your drive very soon.

Look How Far We've Come

Hard drives have certainly come a long way since the 350 Disk File system in IBM's RAMAC 305. Platters are spinning faster now than they have ever before, and the sky appears to be the limit as far as hard drive capacity is concerned. The bells and whistles that come with new hard drives are certainly enticing, but bigger isn't necessarily better. If you thoroughly analyze your computing demands, even the toughest hard drive decisions will become crystal clear. ■

BY SAM EVANS



Because SATA cables are smaller than IDE cables, they promote better airflow, keeping your computer cooler.

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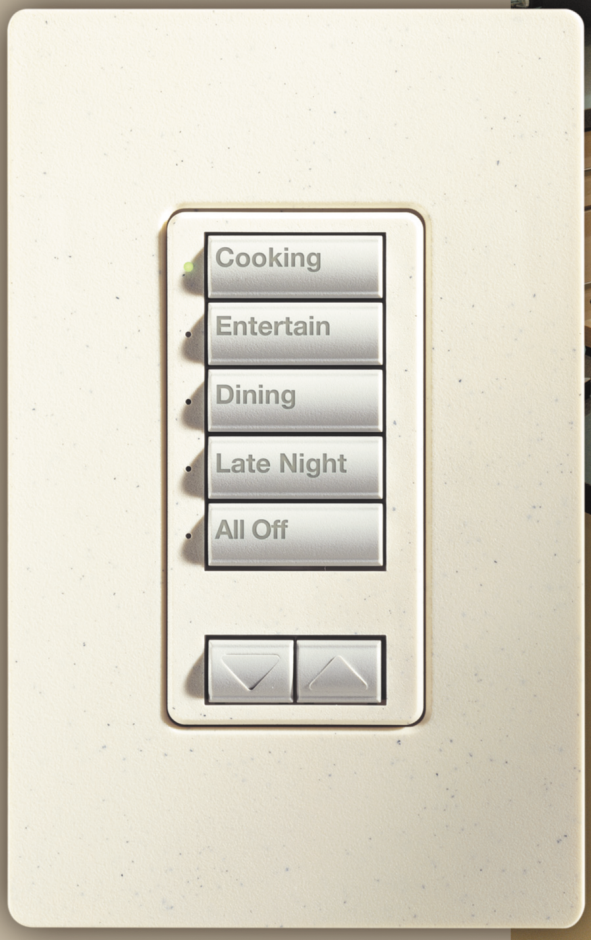

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PC Torture Tests

Tough Computer Cases For Tough Times

You spent almost $2,000 of your hard-earned money to buy that notebook PC, yet you drag it around in a ragged, unpadded backpack you found in the back of your closet. It's time to rectify this situation with a PC case tough enough to shield your PC from common perils that can leave your high-tech tools in pieces. We found three super-tough cases and decided to subject them to severe treatment, all to give you a better idea of what kind of protection these rugged cases afford your PC.

The Contenders

We borrowed three cases: the 1490 Computer Case from Pelican ($250.95; www.pelican.com), a Matias Laptop Armor case ($149.95; www.matias.ca), and a 4-inch Z5 from Zero Halliburton ($305; www.zerohalliburton.com). These aren't your typical PC cases. All three have the cushy interiors you'll find in most PC tote bags, but they also have hard-shell exteriors designed to help your PC weather rough handling.

Pelican. The 1490 Computer Case is watertight, dust-proof, crush-proof, and corrosion-proof and has a copolymer resin exterior that's designed to work best in temperatures from -10 to 210 degrees Fahrenheit. Should your load wind up in the drink, this model is supposed to float in salt water even with a 20-pound load. Our 7.8-pound Deluxe model also included a lockdown Velcro safety strap, padded shoulder strap, locking latches, O-ring seal, padded handle, and an atmospheric purge valve.

Inside, the lid has an organizer to store small accessories. Your eyes, however, will most likely go straight to this case's cushioning, which looks like the kind of high-density foam used to ship electronics via ground service. It's not pretty, but it's effective. That's the kind of aesthetic you can expect from this product as a whole—it's not as handsome as the other cases we tested, but it does offer an air of gritty reliability and toughness.

Matias. With its sleek, metal exterior, the Laptop Armor case has a more elegant appeal. The interior of this 5.1-pound case is also very different, letting you customize the padding (using Velcro-backed foam spacers) to help properly cushion PCs from 12 to 15 inches. The PC's edges never touch the corners of the case, a concept Matias says offers better impact protection.

There's also a lid organizer fitted with adjustable Velcro straps to support varying loads. The Laptop Armor has key locks and comes with a detachable padded shoulder strap.

Zero Halliburton. On the outside, the Zero Halliburton Z5 case looks almost identical to the Laptop Armor. The most obvious differences are the silver color and the latch design; instead of folding latches, this case integrates a small sliding latch matched to a built-in combination lock.

Inside, this 6.8-pound case looks very different from the other cases. It has a lid-mounted file organizer similar to the Laptop Armor, but instead of copious amounts of squishy foam or cushioned spacers, you'll see firm, black polyurethane foam. The Z5 comes with a strap to secure your PC and a shoulder strap, too.

Pelican case

Lock & Load

As impressive as these cases sounded on paper, we wanted them to justify their prices, so we devised a few tests to see if these products would survive real-world bashings. At the end of our tests, we had a much better idea of each case's construction quality.

Before any damage occurred, we started with our water tests. We filled a bathtub with water and plopped in each case, sans PC. All three products floated. But when we pushed down on the cases, ominous bubbles rose to the surface from the Laptop Armor and Z5 cases. Both cases wound up with wet interiors. The Pelican case stayed completely dry.

Next, we performed a few tests to see how well each case's finish would resist scratches and dings. We slid each case across a smooth concrete floor. Both metal cases incurred significant scrapes, with the Laptop Armor's black finish taking the worst beating. The Pelican had a just few scratches.

Z5 case

Our Pelican case couldn't completely protect this PC from a 10-foot fall to concrete. The PC did function, though.

Stop, drop, and roll. Then we graduated to more intense tests. With a 5.3-pound ThinkPad inside, we dropped each case from four feet onto a carpeted floor with no noticeable damage. Then we switched to a concrete floor. Both metal cases developed small dents; the Pelican case was unharmed. During these tests, we noticed that every time we dropped the Laptop Armor, its latches sprang open and came apart. We resorted to locking these latches to keep the case closed during more vicious testing.

Laptop Armor case

We tossed all three cases about 10 feet onto a grassy slope. All three escaped major damage; however, the Laptop Armor did take a blow that bent one side of the case, making it a little harder to close the lid. We then made the cases cartwheel down a flight of concrete steps. The cases endured with few problems, and our PC was still working just fine.

To up the ante, we dropped each case from about 10 feet onto a concrete floor. The lock on the Z5 case popped about halfway out of its shell, but the latch still worked. The Matias product, however, took a beating, as two of its feet flew off and it popped open, its locked latches wrenched apart by the impact's force. It was still serviceable, but barely. The Pelican case survived practically unscathed, although a seemingly pointless bit of plastic did pop neatly off of the top of the case. After this fall, we saw our PC's first visible damage. One corner of the computer experienced some serious-looking cracks, and a thin blue line appeared on the screen when we started it.

With our PC pretty much out of commission, we had little to lose by running over each case with a Nissan Maxima. The Z5 case withstood this punishment, but the latch no longer locked. Our Pelican case looked no worse at all, even after we ran over the case twice. The Laptop Armor, however, looked like it had been, well, run over by a car, with a huge dent in one side. Remarkably—almost unbelievably—our ThinkPad still worked, though it was beyond repairing to a useful state.

This is what our Laptop Armor case looked like after we ran over it. Remarkably, the PC inside still worked.

In A Blaze Of Glory

With our metal cases battered beyond repair and the Pelican case looking scruffy, we put these cases out of their misery. We headed out to the pasture, loaded a 12-gauge shotgun, and blasted them all. Both aluminum cases exhibited surprising resistance to shot penetration. The Pelican case did, too, and it was usable even after one of its latches took a direct hit.

The plastic Pelican case, though not as sexy as its metal brethren, was certainly the all-around toughness champion, and the only case worth using after our tests, but as we noted, our PC did suffer some damage in this case after a hard fall. Our metal cases initially looked very nice but lost their flawless beauty at the first sign of abuse. In the end, we were impressed that these cases all did what they were designed to do—they endured a lot of mistreatment and kept our PC in working order. **II**

BY NATHAN CHANDLER

We were surprised to see that our Pelican case deflected a shotgun blast without suffering catastrophic damage.

Your Best Bet? Spaghetti-On-A-Stick

Long-time readers know that I like to close out every year by presenting my list of favorite Web sites in a particular category. In an attempt to counteract the grim realities that permeate the news and end the year on a positive note, the category I've selected is amusing Web sites. These carefully selected sites have absolutely no social redeeming value other than to offer a sliver of escapism, a chuckle, a chortle, and perhaps even a guffaw.

As a professional Web site profiler, a job for which I am eminently qualified by virtue of being able to sit for sustained periods of time, it is my responsibility to review thousands of sites each year. Yes, it's a big responsibility and one that I take very seriously. If, through my vigilant diligence, I can prevent one innocent person from squandering even one precious moment of his or her life by avoiding a worthless Web site (other than those presented in this month's column), then my life's work will not have been in vain. Here then, presented in alphabetical order, are a few of my favorite silly sites of 2005:

7Up Mind Reader (www.digicc.com/fido)

This site will amaze and astound you by correctly guessing a number you have written down in advance. The real challenge here is trying to figure out how it's done. Click the little waving figure in the lower right-hand corner to move from one screen to the next.

Can't Sleep? Try Counting Sheep (www.tinyurl.com/os24)

Computers do so much for us that it only seems reasonable that insomniacs benefit from today's technology, as well. So forget the sleeping pills and let the miracle of the Web lull ewe to sleep.

Gettysburg Address In PowerPoint (www.norvig.com/Gettysburg)

If you ever have had to endure a corporate PowerPoint presentation, imagine if Abraham Lincoln were on the agenda: "Good morning. Is this on? Can you hear me in the back? OK. Um, my name is Abe Lincoln, and I'm like . . . your president. Um, it's a . . . it's great to be here. Dave and Shirley, you and your committee did a great job with the breakfast. Wasn't that great folks? OK, are we ready? Yes? OK, here we go. May I have the 'Four Score' slide, please?"

Half-Baked Inventions (www.halfbakery.com)

Spray-on pizza toppings, laser steak knives, and Burger King incense: What do these items have in common besides being the ingredients for a big party at Mr. Modem's house? All are elements of a wonderfully demented, searchable database of fictitious inventions. Contribute your own half-baked ideas, or rate others'. I'm putting all my money into Spaghetti-on-a-Stick. It's gonna be huge.

Men Who Look Like Kenny Rogers (www.tinyurl.com/b5sl)

There isn't much to say about a Web site devoted to pictures of people who resemble the famous country music star and fast-food chicken guru. In addition to the photo galleries, the site has tips on how to look like Kenny, how to spot Kenny in a crowd, and how to make a mean corn muffin—just like Kenny!

Planarity Flash Game (www.planarity.net)

The Surgeon General has determined that this game may be extremely addicting, so proceed with caution. Place your mouse pointer on the dots and drag the attached lines so that none of the lines overlap. I almost made it to Level 2, but lost consciousness from all the excitement.

Coming next month: I don't know about you, but I'm tired of all the negative blathering about viruses, spyware, adware, spam, security vulnerabilities, and the like. Enough already! I'm going to start the year off right by focusing on everything that is good and right, wholesome, pure, and innocent about computing and the Internet. OK, so it will be a very short column, but join me here next month and see if you don't agree that there are far more positives than negatives associated with computing today. With that, dear friends and gentle readers, I wish you a happy and healthy new year. ■

BY MR. MODEM

Mr. Modem (Richard Sherman) *is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit* **www.MrModem.com.**

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Let The Web Speak To You

IBM's Home Page Reader Gives The Internet A Voice

Technology has improved immensely over the years, and IBM has been an integral part of that growth and change. The advances in its Worldwide Accessibility Center, which is part of IBM's Research Division, have helped blind and visually impaired computer users get acquainted with the Internet.

The focus of IBM's worldwide accessibility initiatives is to make information technology available for users who have disabilities, including everything from hearing loss to blindness. IBM works closely with other organizations to develop products that those with disabilities can use. That's where IBM's Home Page Reader fits in: It can help blind or visually impaired individuals use the Internet with ease.

HPR 3.04 Improves & Adds Functionality

The latest version of Home Page Reader, 3.04, offers a number of improvements from previous versions.

Screen reader. HPR is primarily a screen reader of Web content. A voice reads a Web site's text aloud and gives descriptions when it finds a graphic or link on the page. HPR can serve as a Desktop reader, as well, helping users access and use such tools as the Control Panel, Start menu, and Windows Explorer. For visually impaired users, a page magnification feature is also available so they can follow along as the voice reads. A cursor moves in sync with the screen reader's voice to help users focus and follow along.

Customization of features. Users can resize windows or panes so the text and graphics are easy to see. Font size, color, and typeface can also be customized for a personalized experience.

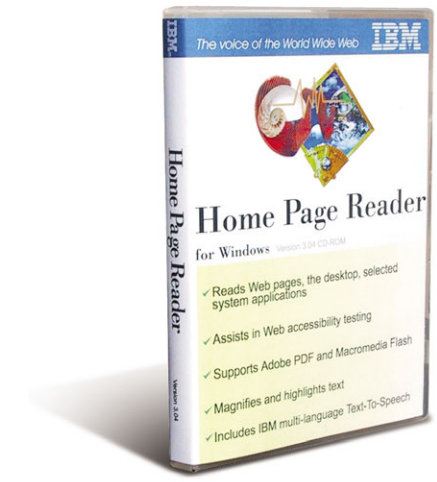
Access to multiple file types. HPR 3.04 lets users access PDF (Portable Document Format) and Macromedia Flash Player 7 files, provided you have Adobe Reader or Acrobat and a Flash player, respectively, installed on your computer.

Multilanguage support. Support for English, Brazilian Portuguese, Finnish, French, German, Italian, and Spanish showcases IBM's commitment to worldwide accessibility improvements.

Web developer assistance. HPR can even benefit those who have no vision impairments, specifically Web developers. If a developer is trying to create a Web site that meets accessibility guidelines, he can get hints and tips from the HPR developer's help document about testing his site for accessibility. By using HPR as he is developing the site, he can see and hear what visually impaired users would if they visited his site while using this program. As the developer checks his site with HPR, he's more likely to realize if he has forgotten to include important information in the site's code.

The Nuts & Bolts

After joining IBM in 1982, Guido Corona, an advisory accessibility specialist, became blind two years later due to a disorder called retinitis pigmentosa. He's worked on accessibility products and experienced products' improvements firsthand while using them to navigate his own computer. Over the years, the Accessibility Center has grown into an area of IBM with about 100 employees dedicated to producing end-user accessibility products worldwide, including Home Page Reader. According to Corona, "This program can verbalize elegantly whatever the author has exposed."



Home Page Reader 3.04 from IBM helps blind or visually impaired users access Web site content.

Guido Corona, advisory accessibility specialist at IBM, helped develop HPR and uses it in his daily life.

Availability & Pricing

A free trial of Home Page Reader is available on IBM's Web site (www-306.ibm.com/able/dwnlds/index.html#hpr_trial). This version limits the accessible Web sites to IBM.com (www.ibm.com), Adobe.com (www.adobe.com), Macromedia.com (www.macromedia.com), and W3C.org (www.w3c.org), but users can get a taste of how the screen reader works and sounds and access PDF and Macromedia files. Users can practice with the trial version as long as they would like before buying the software.

The full version of HPR that allows access to all Web sites works with Windows 2000/XP Professional. It runs $142 for an individual license, with each additional license costing $79.

HPR is guided by a set of command keystrokes, and the screen reader's voice responds to whatever action the user specifies. After starting the program, the voice begins reading at the top of the Web page, but it stops reading when a user presses CTRL. Other keystrokes the program responds to include CTRL-ALT-H, which starts HPR; Spacebar, which starts reading from the current position on the page; TAB, which reads the next link; and ALT-Left arrow, which brings up the previously viewed page.

The program can also tell users what graphics appear on the Web page. When a developer creates a Web page, he writes commands into the code that tell the software what each object is.

As the screen reader makes its way through a Web page, a male voice reads the main text, but a female voice says any words that are part of a Web link. This makes it easy for a listener to recognize when a link is present. To activate a link, a user can press ENTER as the link is being read. Or, if the screen reader has already passed the link, the user can navigate to the link using the TAB key and press ENTER to activate

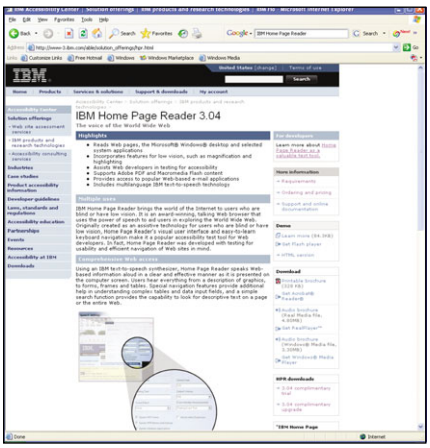
IBM's Accessibility Center shows users how IBM is dedicated to making its products and Web site accessible to those with disabilities.

it. If a user wants to go to a site to which there's no link on the current page, he can press CTRL-O. A dialog box will open to type the site's URL.

If a user is unsure of the screen reader's position on the Web page, the Where Am I feature can help. If a user has just heard a word on the page, but isn't sure from what part of the page HPR is reading, he can access Where Am I by pressing ALT-F1 to tell him where he is.

A Step In The Right Direction

With the development of software for those with disabilities, and as accessibility standards evolve, these products will continue to enhance the lives of users. HPR has improved the online experience for those who use it, allowing them to enter a world they may have never thought accessible to them.



IBM's Web site provides a wealth of information about Home Page Reader 3.04 and its features.

BY JENNIFER SUGGITT

Other Tools To Consider

Home Page Reader isn't the only software designed to help blind or visually impaired individuals use their computers. Check out the following programs to see if one of these alternatives could work for you.

- **JAWS (Standard: $120 and $180; Professional: $200 and $260; www.freedomscientific.com)**. This screen reader supports all standard applications for Windows, including Microsoft Office XP and Internet Explorer, and lets users customize the way the program reads Web pages.
- **Hal Screen Reader ($795; www.dolphincomputeraccess.com)**. Hal Screen Reader's speech and Braille outputs for Windows help users work through Internet pages. Interactive tutorials help users adjust to using the program, and the users manual comes in print, as well as audio CD.
- **MAGic (Standard: $75 or $135; Professional: $150 or $210; www.freedomscientific.com)**. A screen-magnification program from the makers of JAWS, this software lets users navigate applications and choose what information from the screen they want the program to read. Also available as a magnification program without the speech feature.
- **ZoomText 9.0 ($595; www.aisquared.com)**. This software helps visually impaired users by giving them high-definition, magnified text and a feature to listen to documents and applications.

Eye In The Sky

Your Own Remote Security System

Have you ever wondered what the cat and dog are *really* up to during the day? Or, more importantly, would you feel more comfortable being able to monitor the house, yard, or office remotely—anytime, anywhere? The advent of cheap and simple Web video cameras, combined with the near ubiquity of high-bandwidth Internet access, brings remote monitoring possibilities to the masses. We'll demonstrate how to find, setup, and maintain a system of Web cams and software using a couple real-life examples. We'll create an affordable and easy-to-use Web-enabled security system that will help watch over the things most precious to you, no matter where you are.

Our Examples

Video cameras and remote monitoring systems used to be exclusively for retail stores or high-end (and high-cost) specialized home security. But with common Web cameras, a decent PC, and some special software, anyone can create systems that would make a bank teller proud. We're going to focus on PC-based systems that connect via standard wired or wireless network connections and have browser-based interfaces accessible from within or outside a local network. There are more specialized options out there, but we're emphasizing systems you can set up on your own, with technology you may already have.

ActionTec's 54Mbps Wireless Network Camera is one of a new breed of remote-access cameras focused on simplicity and convenience.

For our examples, we used ActionTec's 54Mbps Wireless Network Camera ($199.99; www.actiontec.com), Toshiba's IK-WB02A Network Camera with lens and PoE (Power over Ethernet) converter ($500 [street] for camera, $630 [street] for kit with camera, lens, and power supply; www.toshiba.com), and Swann's PC DVR-4-Net Security PC Card with Bulldog security cameras ($100 for expansion card, $129.99 per camera; www.swann.com.au). They offer three connection methods, representing the most common options in the market. The ActionTec is more focused as an entry-level consumer model. It's simple in appearance, setup, and options. The Toshiba is more heavy duty and complicated (but more powerful). It can record to a hard drive on demand, but for scheduled and motion-detection recording, it needs an SD (Secure Digital) memory card. Swann's is a more traditional video surveillance system—the camera video feeds can connect to a VCR, television, or recorder as easily as they connect to the PC DVR-4-Net with expansion card and software.

Wireless models (such as the ActionTec) connect via 802.11g or 802.11b wireless networks, with 802.11g preferred for its higher carrying capacity. Wired Ethernet cameras (such as Toshiba's) connect (and sometimes receive power) through a standard wired Ethernet connection. Other systems (Swann's, for example) install as expansion cards on a regular computer to

which the cameras connect directly via standard video cables. Your network environment will determine the best options—wireless systems are convenient but expose the video feed to the same security risks as any wireless connection. Ethernet network users can take advantage of reliable high speeds but will have to run cable to each camera's location. And users without an operating LAN (local-area network) can use direct video feeds to connect to a single Internet-enabled computer for remote monitoring but will also have to run cable to each camera.

All three systems are available from online retailers, several big-box electronics stores, and specialty shops. Seek professional assistance, however, if you're overwhelmed by the prospect of installing hardware, mounting cameras, configuring a network, and setting up remote access through firewall ports and IP (Internet Protocol) address utilities. We recommend buying from local electronics retailers or specialty stores, as you're more likely to find help (and easier returns) from someone nearby.

Computer Considerations

Before beginning the installation, check your computer's specifications against the camera system's requirements. Though system-specific requirements vary (see the "System Specs" sidebar), in general, you should have a recent Windows version with plenty of processor speed and memory (at least 256MB), sufficient hard drive space for recording video, and a broadband Internet connection. For pure network feeds, such as ActionTec's and Toshiba's, there aren't any hardware installation steps on your PC. Systems such as the Swann's PC DVR-4-Net require installing a PCI (Peripheral Component Interconnect) expansion card. Disconnect the power and other cables, open the case, find a spare slot, secure the card to the chassis, and replace the cover. Boot up and run the included software to install the card's device drivers. When prompted, make sure to select the NTSC video standard for United States and Canada installations.

Toshiba's sturdy Ethernet-powered IK-WB02A helps you keep an eye on any site remotely, with fast reliable connections.

Camera Setup

Set up the cameras. Most models (and all we use as examples) come with mounting brackets for suspending the camera from a wall or ceiling. For best results, position the camera with a clear (and unlikely to be obstructed) view. An overhead view from across the room often provides the best results—wide enough to see a broad swatch of space, but tight enough to still make out what's happening.

Some wireless models, such as the ActionTec, may require minor assembly before use. Others, such as the Toshiba, may have changeable lenses (purchased separately) to twist into place. Others yet have separate video and power cables to connect between the camera, power source/outlet, and computer. Follow the manufacturer's instructions.

Place the cameras where they provide a clear and uninterrupted view of the entire area.

Next, connect the first camera to the computer. Even wireless models, such as the ActionTec, usually require an initial Ethernet-cabled connection for wireless setup and configuration. In each example (or any other system), simply repeat the setup steps for each subsequent camera. After making the connection, run the included software to install any device drivers and configuration applications. You'll usually find a setup wizard or utility, which will get the camera running and provide basic configuration options for image quality and remote access.

For the ActionTec, we started by connecting the camera to a network hub or router using the included Ethernet cable. Next, we plugged the power adapter into both the camera and the wall. We put the ActionTec CD in the computer and walked through the Setup wizard. The utility searched for and found our camera, which we selected and clicked Next. At the ensuing login prompt, we entered the username and password provided in our documentation's Quick Start Guide. We clicked Next again and chose to assign the camera to a dynamic IP address within our network. (You may have a different LAN configuration.) On the Wireless Settings screen, we entered our network's name, clicked Next, and input wireless encryption keys. Finally, we named the camera (Play Room, in our example), clicked Next once more, reviewed the settings, wrote down the camera's IP address, and clicked Save.

The Toshiba's setup process was similar. We started by installing the Camera Finder software from the included CD. Then we connected the camera to our network switch with a

straight-through Ethernet cable. If you have a PoE-capable infrastructure or are purchasing a Power over Ethernet Midspan converter (as in our example), you're all set. Otherwise, connect the power cable to both the camera and the wall and power up the unit. We restarted our DSL (Digital Subscriber Line) modem, cycled the power on the network switch, and restarted the computer. After running the Camera Finder application, we opened the View menu and selected Search. The utility found our new camera, which we highlighted from the list in the left pane, and we then clicked the User button. After viewing the feed, we clicked Configuration to preview our options for account access, network setup, and recording options.

Swann's configuration was a bit simpler after installing the expansion card and its software. We simply plugged the camera video cables into the video jacks on the card (now installed on our PC), plugged the camera power cables into the power adapter, and launched the SuperDVR software installed earlier. The main screen automatically displayed the video feeds from each camera.

System Configuration

Configure your security system for video and recording options and for remote monitoring. We'll walk through basic settings for best video results first and then address the network, firewall, and IP (Internet Protocol) address issues inherent to online remote access. Again, each system's software has a different layout and options—spend some time with the manufacturer's documentation to fully understand your system's capabilities.

ActionTec's Wireless Network Camera has a very simple interface. Novices will appreciate the simplicity. More experienced users or those with more complicated requirements may be frustrated by the limitations that simplicity imposes, but most users will love the convenience. After connecting the camera and installing the software, we simply opened our Web browser and entered the IP address we recorded during the setup process. This is always an internal address starting with 192.168.xxx.xxx—you'll use a different address for remote monitoring. Our browser immediately loaded the camera's Welcome page. We clicked View Video, installed the ActiveX control as prompted, and were able to view the live video feed. Clicking the Administration link brought us to the configuration screen, where the Image menu option let us control video quality, brightness, and hue.

The install wizards help find your camera on the network and configure basic settings for image quality and video access.

In Toshiba's Camera Finder application, we started by changing the administrator login. After selecting the camera from the list (again, after clicking Search in the View menu), we clicked the Administrator button. We changed the default login information (found in Toshiba's documentation) to something not too obvious that we could still remember. We clicked the Change button and closed the browser. From Camera Finder, we selected the camera again and clicked the User button. After checking for a live video feed, we browsed through the menu options on the left side. The Camera Control section adjusts image quality and resolution. The Configuration link toward the screen's bottom opens a menu to set name, time, and display options under the System link. We configured account access, motion detection, and email notification settings under User, Alarm, and Mail respectively.

In Swann's Super DVR application, four clear setup buttons appeared along the display's right side. The Login button let us set and manage user accounts for accessing the system, a useful security layer if you're allowing remote access. The Configuration button provided options to set recording defaults, picture settings, motion detection, and Auto Mail options. You can configure Auto Mail to generate an email notification whenever the camera detects motion.

Network Configuration

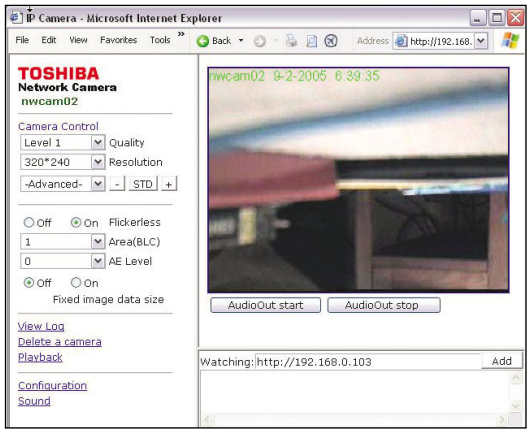
After getting the cameras running and viewable from within the network, it's time to make the final leap: remote access. Most systems have software utilities and user instructions for viewing the video stream remotely from a broadband Internet connection. As always, follow the manufacturer's exact instructions and don't be afraid to rely on their Web and telephone support resources if you're stuck.

Conceptually, the process is simple: Make sure you see the video feed from inside the network and then configure your IP address, DNS, and firewall settings to make sure you can see the feed remotely. Most applications include utilities to help identify IP and DNS settings and to translate between public and private network environments. We won't delve too far into firewall settings (either hardware or software), as the hundreds of options preclude specific examples, but in general, you need to make sure the ports your camera uses are open on the firewall. You may also need to create Virtual Server or Port Forwarding rules to help the firewall direct Internet security camera requests to the camera you want to view. Again, check your firewall's documentation for specifics on configuring outside access to internal resources.

If you purchased a **static** (permanent) IP address from your ISP (Internet service provider), you won't need to do anything else in the configuration utilities. Try entering the IP in any Internet-connected browser. If you can't access the camera's software, check your firewall settings for open ports and traffic forwarding. Most of us, however, don't have static IP addresses. But even people with **dynamic** (changing) IP addresses have a simple workaround. Subscribers can go to www.smartcomputing.com/dec05/webcam for instructions on setting up a domain name that maintains its connection to dynamic IP addresses, even when your ISP assigns you a new one.

From the ActionTec's Welcome Page (accessed by entering its internal IP address in the browser), we clicked the Administration link. After entering the admin login and password information we used before, we clicked the Network link from the Administration page. We entered our new DynDNS Host Name, Account Name, and Password in the appropriate text boxes in the DDNS section. We applied changes and were able to access the camera immediately from a different computer on a different network. If you can't access the video feed remotely, but can view it from inside the network see the firewall discussion above.

Toshiba's setup made DDNS a little easier. The company included a link to a service from within the Configuration menu that created a camera home page, configured itself for our network, and even let us zoom and pan remotely. From the Camera Finder application, we clicked Search from the View menu to find our camera, clicked User, selected the Configuration option, and clicked the DDNS link along the left menu. We selected the radio button to Enable the DDNS option and followed the To Sign Up DDNS Click Here link. At the target Web site (www.cameraswebpage.com), we signed up for a free 90-day trial. (Basic service is just $19.95 a year.) After creating our account and entering some basic information about the camera, we had a site ready to go. In the DDNS Settings page from the Configuration menu, we entered the UserName, Password, and DDNS Server for CameraWebPage. We were able to view the video feed at our own URL provided by CameraWebPage.



Toshiba's configuration page provides a video feed and links to comprehensive menu options.

Configuring the Swann for remote access required a little more firewall work than the other systems. First, we launched the Super DVR application and clicked the Configuration button from the list on the right. The first button on the new menu (and the default screen) is Basic Configuration. We left the cameras' HTTP Port at 80 and selected the Web Camera Service option to let the PC DVR-4-Net software act as an Internet video server. We then recorded the default Data and Command Ports: We had to make sure our firewall software and hardware left those ports open to public Internet traffic. Setting up the viewer application was simple, though. We entered the server's IP address (or domain name provided by a DDNS service) from our browser, chose the Live Surveillance option from the Select Remote Function page, and installed the Remote Surveillance client as prompted. When we launched the client, we logged in with the System credentials provided in the documentation and used the same Super DVR interface as on the host computer.

After initial setup, monitoring a security system is easy. Bookmark the site and check in whenever the mood strikes. You may need to restart your cameras or your computer every once in awhile or reset your network and firewall settings if you make changes to the configuration. Whatever your system, you'll enjoy the ability to keep an eye out, anytime and anywhere. ❚❚

BY GREGORY ANDERSON

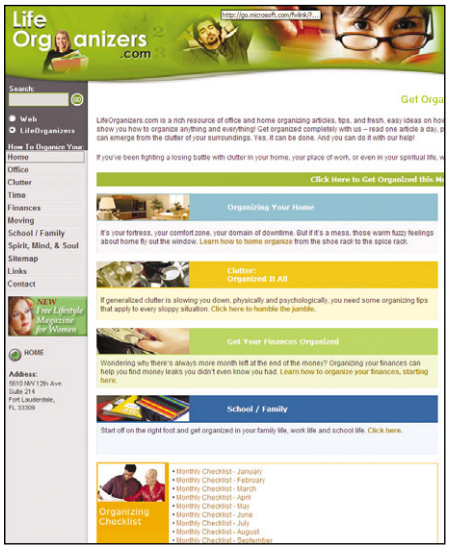
System Specs

Here are the listed technical specifications for each of our examples and their remote services. Check the documentation before you buy any system, of course.

	OSes	CPU	Memory	Browser	Network
ActionTec 54Mpbs Wireless Network Camera	Win98SE, WinME, Win2000, Win XP	N/A	N/A	IE 6.0 or higher	802.11b/g
Toshiba IK-WB02A Network Camera	Win2000, WinXP, Mac OSX	N/A	N/A	IE 6.0, Netscape 7.0	Ethernet
Swann PC DVR-4-Net with Bulldog cameras	Win2000, WinXP	800MHz	256MB		N/A

Clear The Cobwebs & Clutter

Out Of Sight Isn't Out Of Mind With LifeOrganizers.com



Your kids are grown and out of the house, and you've managed to fill their vacated rooms with years of accumulated clutter. You don't really want to display those 45-year-old bowling trophies, so they're hidden away in boxes in one of the spare bedrooms, along with the bag, ball, and Linds buckskin shoes you bought all those years ago. Look in any room or closet, and you'll likely find boxes of already-read books, out-of-date clothes, broken or seldom-used tools and appliances, family mementos, and remnants of unfinished projects.

Now that you're swapping your four-bedroom suburban home for a two-bedroom condo on the golf course, you're probably going to have to send a few of those possessions packing. Although the spare bedrooms are a good place to start, don't forget the master bedroom, kitchen, attic, basement, and garage.

To make the task a little less daunting, the folks at LifeOrganizers.com (www.lifeorganizers.com) have useful articles and steps to organize every room in your house, as well as your time, your finances, and many other aspects of your life.

Brief Distraction

We found the information on this site useful, but we were initially puzzled by the product and book plugs we found as we explored the site. For instance, if you click the link to Moving, you'll arrive at the How To Organize Your Move page. One piece of useful advice is to Use A Moving Checklist, and under that subhead, you'll find a link to Maria Gracia's book "Finally Organized, Finally Free." Gracia wrote several of the articles and tips for the Moving section, and as you read them, you'll find links to her Web site and book. Site founder Paul Holstein says LifeOrganizers.com is a labor of love, and "the third parties write these articles with the agreement that we'll link back to their sites or products."

So, if you need products to help you get organized, you'll find opportunities to buy them throughout the site.

With that in mind, let's start exploring LifeOrganizers.com. On the home page, you'll find a How To Organize Your: menu along the left side. Depending on what you'd like to organize first, click Home, Office, Clutter, Time, Finances, Moving, School/Family, or Spirit, Mind & Soul. The last three links, Sitemap, Links, and Contact, provide information on things other than reducing the clutter in your life, of course.

In the middle of the page, you'll see the same menu choices (minus the Sitemap, Links, and Contact) with brief explanations of what each will help you organize. And if you're serious about maintaining a well-organized life once you've decluttered your house, scroll to the bottom left of the page and take advantage of the Organizing Checklists (one for each month of the year).

The Organizing Tips box at the bottom right of the page pulls out seasonal tips to help you prepare for the coming weather changes. For instance, the 11 Winter Organizing Tips includes: Take Inventory Of Your Winter Wardrobe. Now's the time to buy new gloves to replace the one you lost last year.

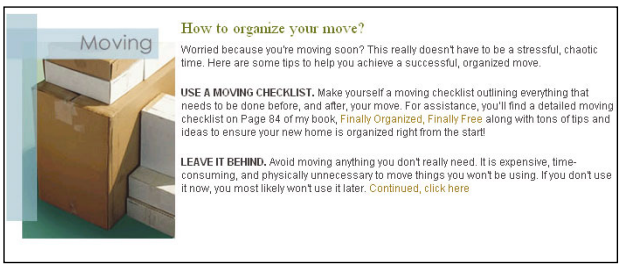
Home

"A home for everything and everything in its place." If that quote on LifeOrganizers.com makes you chuckle as you look at the piles of unread magazines and unopened mail on your dining room table, you'll probably find beneficial information in the Home section. From the main page in the Home section, links are divided into nine sections: Kitchen, Closet, Home Office, Dining Room/Living Room, Clean, How To Get Organized, Home Improvement, Mail Organization, and Stop Procrastinating.

Clicking a few links stifled our laughter, and we were impressed with what we found. For instance, under Kitchen, click the Kitchen Cabinet Organizing Tips link. One of the biggest problems with finding a place for everything is remembering where that place is when you need the item you've stowed. Tip No. 3, Remember Where Stuff Is, advises you to tape an inventory list to the inside of your kitchen cabinets. The list not only helps you remember what goes where, but also helps other family members find where things go as they help pick up around the house.

Office

Here in the Office section, you'll find tips for organizing your at-home and away-from-home offices. Tips start on



Moving day is stressful enough without waiting until the last minute to pack. Pick up pointers in the Moving section of LifeOrganizers.com.

the file level (how long to keep various financial records; how to set up a more efficient file system) and work their way up to your office supply cabinet (assign a shelf for each type of supply). You'll also find hints for better time management, ways to eliminate cord and cable clutter, and ideas for setting up a new office.

Clutter

Four simple rules (Store It, Give It, Sell It, and Dump It), if adhered to, should keep your home free of clutter. We find the whole task overwhelming, and if you, too, struggle to stay on top of the disorder in your home, you'll probably find the tips in this section helpful. Some articles, such as 5 Tips For Finding The Energy To Declutter and Transforming Chaos To Calm, may motivate you to get started. Following guidelines in the articles in this section, including 5 Ways To Deal With Stream Of Paper and 10 Ways To Declutter Your Home, provide advice on clearing the messy little piles of stuff from your home and/or office.

Time

The tips in this section encourage procrastinators and over-programmers alike to manage time more effectively by scheduling days and times for tidying and sticking to them. The common-sense tips in Increase Your Daily Productivity—9 Simple Ways help keep your focus on what you're doing, so you won't be tempted to take a break or slip in an extra task or two.

Finances

In Finances, you'll find rudimentary facts, such as how to organize and balance your checkbook, and infinitely more difficult and complex issues, such as Dealing With Financial Affairs After The Death Of A Loved One.

Moving

Moving from your home is bound to be difficult, especially if you've lived there for a long while. Packing and organizing your move prior to the big day may help diminish some of your anxiety. The aforementioned Moving Checklist is useful, and be sure to read the articles on Changing Address/Phone Number and Utility Turn On/Turn Off. If you're moving across the country, you may arrive at your new home before the moving van; read Keeping It Together On Moving Day for tips on things to take with you. Keep your contract and the phone number of the moving company with you, for instance.

School/Family

We found all of the sections comprehensive and informative, but we were particularly impressed with the breadth of information in the School/Family section. The school section has lists of articles dealing with the needs of school children of all ages. There are also useful tips on teaching your kids how to manage money, so they don't head off to college ignorant of checking accounts, credit cards, and budgets.

The Family section serves up useful and diverse tips, including reminders, so you don't forget loved ones' birthdays; ideas to organize your medical records, so you have quick and easy access when you need them; and even strategies to make your holidays more festive and less stressful.

Spirit, Mind & Soul

Here, articles extol the virtues of positive thinking. To get motivated to clean your home and life, a good attitude helps. The articles here also aim to free your mind of energy-robbing thoughts, as well. Among others, there are tips on setting realistic goals, balancing home life and careers, and challenging yourself to see not just your limitations but your possibilities, too.

And if you're thwarted by a task, read the calming words of Ms. Gracia in When Things Don't Go As Planned. ❚❚

BY KATHRYN DOLAN

About LifeOrganizers.com

Site owner Paul Holstein says in the first year after he and his wife founded CableOrganizer.com (their for-profit site), they received many questions about organizing other facets of readers' possessions and lives. Holstein says that "the questions didn't fit with CableOrganizer.com," which is a site devoted to managing the loose wires, cords, and cables in your home and office.

Holstein continues, "I happen to like things organized myself, and this is a subject that is near and dear to my heart. It's been a real pleasure to produce the site for these past two years. I often get emails from people who visit the site and tell me how pleased they were to find us and how it has changed their lives. It is very rewarding to help people." ❚

Enhance Your Time Online

Email Security Tests

Problem: I have a virus-protection program, but with all these security holes and patches constantly coming out, it's hard to know whether my computer is up-to-date and safe.
Solution: The best way to test your computer's security is to try to break it. There's a safe and easy way to do this, and it doesn't involve having to write malicious code. The Email Security Testing Zone at WindowSecurity.com (www.windowsecurity.com/emailsecuritytest) is a fantastic series of free vulnerability tests. Instead of a Java-based diagnostic that looks at your system, this site actually sends a test email to your system that attempts to create a file on your Desktop. If this email is blocked or your system doesn't allow this file to be created, there's a good chance your computer is safe. If not, the text file explains where the vulnerability is.

One Fewer Trip To The Post Office

Problem: I'm going on a much-needed winter vacation, and I need to stop mail delivery at my house while I'm away. Can I save a trip to the post office by making a trip online?
Solution: Indeed you can. In fact, it's so easy to think about all the great online shipping tools the USPS site has that you don't want to miss its Receiving Mail tools. In addition to the online hold mail service (https://dunsapp.usps.gov/HoldMail.jsp), there are other options to check out, including change of address, mail forwarding, and redelivery services.

Live To Be 100

Problem: I'm trying to live a healthier life, but I'd still like to know how long I have to live. Will I make it to 100?
Solution: No Web site we know of can accurately predict your lifespan, but the Alliance For Aging Research has developed a quiz that points you in the right direction. The Living To 100 Life Expectancy Calculator (www.agingresearch.org/calculator) is a wonderfully detailed online test taken from a bunch of research about centenarians. If you're looking for a gimmicky site that spits out a quick number for you, this isn't it. The test is fairly lengthy, and the questions aren't always easy. But for those who are serious about health, this is an empowering tool to see where the weaknesses in your long-life potential are.

Don't be vulnerable—test your email security yourself.

Go retro with classic screen savers.

Flying Toasters Are Back

Problem: I know that screen savers used to be helpful in saving old monster monitors from burn-in. But with today's flat screens, are screen savers still necessary?
Solution: Screen burn-in is not an issue anymore. So why do an estimated 97% of computers have screen savers? Some people will say that changing your screen while you are away from your computer is a good privacy measure, but perhaps the bigger reason screen savers are still around is that they are still fun. If you want to throw yourself back to the fun of screen savers' early days, check out Screensavers.com's celebration of the original screensaver: The Flying Toaster (www.screensavers.com/afterdark). Each month, a classic screensaver from the '90s After Dark series will be available for free download.

The Good News Is There's No Bad News

Problem: I'm so sick of all the negative reports in the news: murder, robbery, and scams. I just want to hear about positive news stories.
Solution: Forget about liberal or conservative bias in the news; if you're sick of the negative, turn to the Happy News (www.happynews.com). Great for kids or people who are a little down.

ARTCOUSTIC™

Because the way your environment *looks* is often more important than the way it *sounds*, music and movie lovers often sacrifice performance for aesthetics.

Problem solved!

ARTCOUSTIC brings both high performance sound and style together in one harmonious and elegant solution.

ARTCOUSTIC loudspeakers and subwoofers are THIN – as slim as 2.5 inches – and hang on the wall like pictures.

Interchangeable, acoustically transparent front screens are covered in a choice of elegant fabrics, or can also be printed with artwork or photography to complement any décor. The cabinet frames come in a choice of finishes, as well.

Explore the world of ARTCOUSTIC - 14 different speaker & subwoofer models, plus thousands of screen choices - and discover what interior designers, architects, and audio lovers have in common - www.ArtcousticUSA.com

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COMPILED BY JOSHUA GULICK
ILLUSTRATED BY LINDSAY ANKER

Shop 'Til Your Connection Drops

Amazon.com

www.amazon.com

Over the years, Amazon.com has refined online shopping to an art. It can wrap most items in holiday wrapping paper (for a fee, of course) and ship them with a personalized card. Rather than spoil your recipient's surprise by tossing the packing slip and return information into the box, it slips those papers into an envelope that instructs recipients not to open it before opening the gifts. As if that's not cool enough, you can store multiple addresses in your account settings (when you register for a free Amazon account) so you can ship gifts to family and friends without digging out your address book. Amazon also has a Wish List feature that lets users pick out the items they want and send the list to friends and family so they can add the items to their carts with a few clicks.

Barnes & Noble

www.barnesandnoble.com

We love the atmospheres of local bookstores, but when the holiday season funnels throngs of stressed-out shoppers into those narrow aisles, we prefer to shop from a chair. Barnes & Noble lets you use its search engine to hunt down gifts, but it also has several book categories that visitors can browse. We like the What's New and Bestsellers tabs, which take the place of those tables and shelves that greet you right when you walk into the real-world stores. B&N also has a Meet The Writers section that boasts information about—and interviews with—popular authors. You can wrap up your shopping spree by buying a few gift cards for stocking stuffers.

CafePress

www.cafepress.com

Coffee mugs, T-shirts, calendars, and even bumper stickers make excellent holiday presents, so check out CafePress, which puts a twist on the standard T-shirt shop. The company is actually an on-demand press that can put phrases and images on a variety of products. It lets visitors submit artwork and prints the material onto the appropriate items whenever customers pay through its online payment service. (The person who submitted the artwork gets a portion of the payment.) Many people sell the CafePress items through their own Web sites, but you can browse (and buy) its goodies by clicking the Go Shopping link on the main page.

Hickory Farms

www.hickoryfarms.com

The holidays would surely be less tasty without fruit baskets, nut rolls, and gourmet snack packs flowing into homes and company break rooms. Hickory Farms has tons of these goodies, and it boasts an excellent Web site that lets you browse a variety of packages or pick and choose your favorite treats. Most importantly, it also has Under $25, $50, and $100 categories so you can quickly find a package in your price range.

Innisbrook.com

www.innisbrook.com

In the mad, mad rush to buy gifts for family members, friends, and people-who-really-don't-deserve-to-get-a-gift-but-I'm-not-going-to-be-the-one-to-burn-those-bridges, you may forget to buy wrapping paper. Luckily for unprepared people everywhere, Innisbrook.com counts next-day delivery among its shipping options. It has tons of wrapping paper and an entire section dedicated to Gift Wrap Accessories. Stock up on ribbons, bows, tissue paper, holiday gift tags, and other wrapping items and then check out the site's gifts. You'll find edible treats, plenty of books, and even school supplies.

LeatherTree

www.leathertree.com

Whether you're shopping for an executive or a bookworm, you'll find some great gifts at LeatherTree. The store specializes in leather bags, ranging from common satchels, such as handbags and duffels, to more exotic totes, such as the Champagne/Wine Carrier, which handles two large bottles at once. The store also offers many binders and padfolios, which house a pad of paper and protect your important documents and pens. If you have a baseball fan in the family, be sure to check out the Rawlings Baseball Glove Leather Briefcase.

PriceGrabber.com

www.pricegrabber.com

The closer the holiday season, the harder it is to save cash, but luckily for us frugal shoppers, not everyone is trying to empty our wallets. PriceGrabber.com, which instead empties its advertisers' wallets, is a search engine that tracks down the best prices for a truly massive array of products. If you're planning to get your child a Game Boy Advance SP, for example, be sure to look for it on PriceGrabber.com (which in turn will point you to the online stores that have the low prices). We found the portable game console for $7.50 less than the going rate at local stores.

That's News To You

Finding the appropriate Usenet discussion group to match your interests can be a monumental task. So each month, we scour tens of thousands of newsgroups and highlight ones that delve into popular topics. If your ISP (Internet service provider) doesn't carry these groups, ask it to add the groups to its list. This month we help Santa cook up gift ideas.

alt.fashion

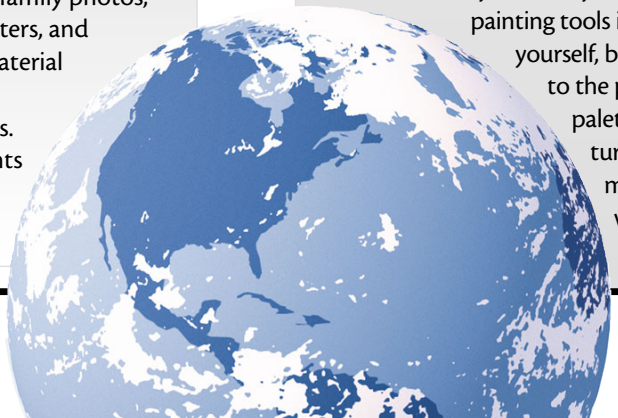
Whether you're not sure what to wear to this year's holiday parties or simply want to know what kinds of clothing gifts teenagers appreciate these days, you'll find answers to your pressing apparel questions here.

misc.consumers

Looking for a particular toy? Post a message to this group if you're having trouble hunting down your kid's Christmas wish. If you need some ideas for inexpensive presents, check out this group's cousin, misc.consumers.frugal-living.

rec.crafts.scrapbooks

We don't think that there's a bad season to add items to your scrapbook, but the holiday season is certainly one of the best for people to find family photos, news clippings, letters, and other bookable material for their carefully crafted scrapbooks. Share your thoughts with this good-natured group.



Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month we feature highlights from our pickings. This month, we bring you a dancing elf. Really.

3D Dancing Christmas Elf

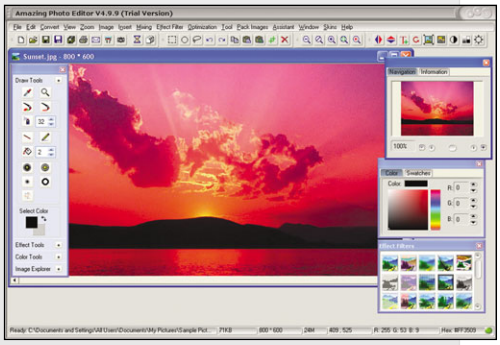
www.sandiegoscreensavers.com

Remember the dancing baby screen savers that splashed onto the 'Net a few years ago? Those diapered dancers had some moves, but they can't compete with this saucy elf. Even the grumpiest of the grinches will get a kick out of Santa's little helper as he gets down to the holiday beats. Inexplicably, the background includes several rainbow stripes that create a sort of tie-dye effect. The screen saver also includes a ton of Christmas ornaments, candy canes, sprigs of holly, snowflakes, and mints that rain nonstop from the top of the screen. The elf himself boasts a pointy red cap, a green outfit, huge boots, and some limber legs. To find the Dancing Elf from the main page, click Screen Savers and Animated Samples. You can try him free (he's very small in the trial version) or buy him for $10. Once you install the screen saver, you can access it by right-clicking the Desktop, selecting Properties, and then clicking the Screen Saver tab. 3D Dancing Christmas Elf supports Windows 95/98/NT/Me/2000/XP.

Amazing Photo Editor 4.9.9

www.silvereaglesoft.com

If you're lucky, your digital camera's driver CD included some worthwhile photo-editing software. But if you're one of the many who either don't have photo-editing software or don't like the software you have, take a look at Silver Eagle Software's quick-and-dirty editor. Sure, its title overstates its capabilities a bit, but it's free (for 30 uses, that is) and is reasonably easy to use. However, it's a little expensive once the trial runs out ($29.95), but the trial will let you tidy up all those holiday pics cluttering up your hard drive and let you get a feel for whether you want to invest the cash.



Touch up photos with this no-frills digital photo editor. The software lets you touch up your holiday pics and then convert them to whichever file formats you want to use.

As with some other photo editors, the Amazing Photo Editor uses palettes, which are small windows that hover above the main window and can move to the Desktop. Thanks to the palettes, you can keep several options in front of you while you work on your pictures. You'll have plenty of painting tools if you want to get in there and touch up pictures yourself, but if you simply want to add some neat effects to the pictures you have, you'll love the Effect Filters palette, which opens by default. It can tile your pictures, make it a black-and-white photo, or automatically adjust the photo's coloring. However, we were a little disappointed to find that the program doesn't include red-eye removal.

A Few Of Our Favorite

It's really not too hard to figure out what to buy your computer-loving spouse, sibling, child, niece, nephew, or best buddy: All you need is an unlimited amount of time in which to peruse various Web sites, visit every electronics store in town, and compare the thousands of computers, digital cameras, printers, drives, scanners, and other goodies for sale this holiday season. Oh, and it helps if you're something of an expert on every one of them so that you always know what you're looking at, how it works, how this widget compares to that one, and which price is really better.

Phew. Well, OK, so maybe it *is* tough to pick out the best computer-related gifts. But this year you have a secret weapon: No, it's not a cadre of industrious elves; this year you've got *Smart Computing* to help out. We asked our writers and editors for their favorite products in a wide variety of computer-related categories. In other words: What would *they* buy as gifts? And the recommendations rolled in. (We knew they would—writers and editors aren't shy about sharing their opinions.)

Here are our staff picks for the best PC-related gifts for the season. (Keep in mind that these aren't necessarily the *newest* products; they're the ones we liked best among those we looked at throughout the year.) So grab a marker and some Post-it Notes (you wouldn't dog-ear our pages, would you?), find a comfortable chair or couch, and let us help you with your gift list this year.

Best Desktop PC For Less Than $1,000

iBUYPOWER's Power Best Buy System

It's amazing what kind of computing power $1,000 can buy today, especially if you don't need a brand name stamped on the outside of the case. The Power Best Buy system from iBUYPOWER (www.ibuypower.com) is fully configurable and very affordable with a starting price of $799.

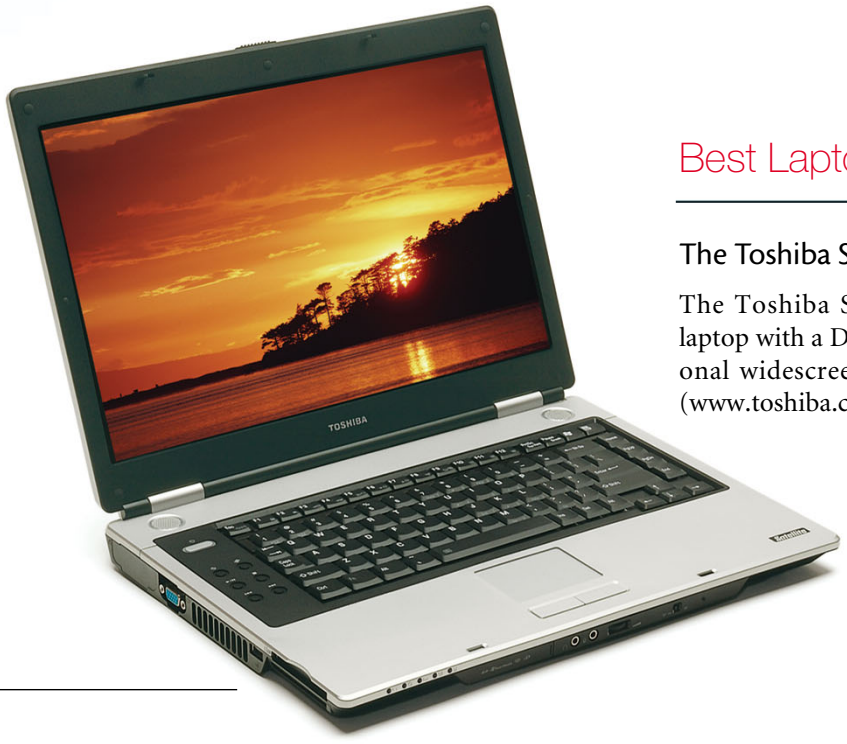
Things

Our Annual Holiday Buyer's Guide: Desktop & Laptop Computers

Best Desktop PC For Between $1,000 & $2,000

The Dell Dimension 9100

The 9100's processing and graphics power make it an excellent home computer and a decent gamer; plus, it's perfectly at home in the office. Home-video enthusiasts, shutterbugs, and audiophiles will want to upgrade to a 250GB drive and bump up the memory to 1GB. Don't forget to add a Sound Blaster Live! sound card, the Dell A425 speakers, and an LCD (liquid-crystal display). With these extras, this system will run you about $1,530 (www.dell.com).



Best Laptop PC For Less Than $1,500

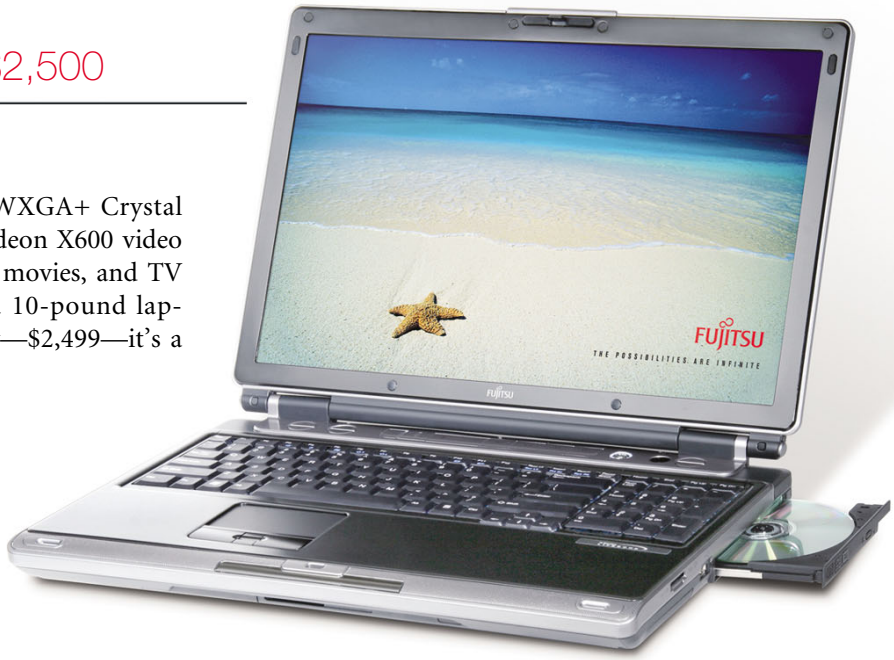
The Toshiba Satellite M45-S359

The Toshiba Satellite M45-S359 is a great multipurpose laptop with a DVD burner, Wi-Fi, and a large, 15.4-inch diagonal widescreen TruBrite display. Its price tag? $1,449.99 (www.toshiba.com).

Best Laptop For $1,500 To $2,500

The Fujitsu LifeBook N6210

The LifeBook N6210's beautiful 17-inch WXGA+ Crystal View LCD, coupled with ATI's Mobility Radeon X600 video adapter, deliver excellent visuals for games, movies, and TV (courtesy of the built-in TV tuner). It's a 10-pound lap-crusher, but what the heck? For the money—$2,499—it's a killer machine (www.fujitsu.com).



Software Santa

Even the best computer won't do you any good without some software, right? Here are our favorite application picks to go with your new machine.

	Application	Company	Price	URL	Comments
	Microsoft Office 2003 Standard Edition	Microsoft	$399; $239 upgrade	www.microsoft.com	The granddaddy of office suites, and arguably the best; for the extra $100, you probably don't need the business-related tools in the Professional Edition
	RootsMagic Version 3	RootsMagic (formerly FormalSoft)	$29.95	www.rootsmagic.com	Well-suited to both the novice and the experienced genealogist
	System Mechanic 5	iolo technologies	$49.95	www.iolo.com	The safest, fastest, easiest way to clean up your system and clean out the Registry
	Visual Communicator 2 Pro	Serious Magic	$289.95	www.seriousmagic.com	Not cheap, but if you want to step beyond PowerPoint to do some serious presentations, this is the software to use

Let the music find *

Anywhere in your home, indoors or out, there can be music. Or sports. Or news.
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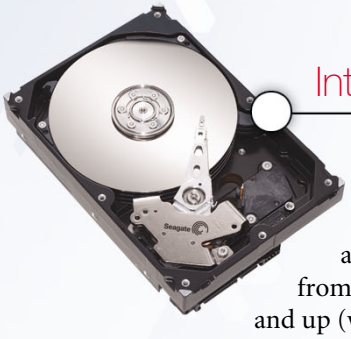
Mass Storage Devices

Hard Drives & CD/DVD Drives

If you were around in the old days (that'd be, oh, 1986 or so), you'll be astounded at how much storage you can buy for a few pennies these days. And with all of those huge music, image, and video files that have become so popular, it's a good thing, too. Here are our favorite storage options.



Internal Hard Drive

The Seagate Barracuda 7200.9

Seagate drives have long hit triples with reliability, resilience, and near-silence. Available in sizes from 40 to 500GB and street prices of $56 and up (www.seagate.com), the 7200.9 steals home with a top-notch performance. It matches the specs of Hitachi's Deskstar 7K500 500GB, but it's a tougher, quieter unit.

Internal CD/DVD Drive

The HP DVD Writer dvd640i

There are other CD/DVD burners out there that are faster and cheaper, but this one has LightScribe ($80 and up; www.hp.com). With compatible software and blank media, LightScribe lets you burn a high-resolution monochrome label on top of each disc. In other words, bye-bye to adhesive labels (and none too soon).

External Hard Drive

The Western Digital WDXF3200JB

At 320GB, this drive includes USB 2.0, FireWire, 8-in-1 memory card reader, Dantz Retrospect Express, and Safe Shutdown. For $299, this Western Digital model (www.westerndigital.com) offers a good compromise on software, capacity, features, and interface flexibility.

External CD/DVD Drive

The LaCie DVD±RW (300783U) With LightScribe

Designed by Porsche, this model is a great LightScribe drive in a cool, understated aluminum enclosure ($110 and up; www.lacie.com). Plus, this drive can record to double-layer DVD+R media, unlike the first LaCie LightScribe burner.

Software Santa

	Application	Company	Price	URL	Comments
	Norton PartitionMagic 8.0	Symantec	$69.95	www.symantec.com	If you need to create, delete, move, or otherwise manipulate drive partitions, use this software
	Norton Ghost 9.0	Symantec	$69.95	www.symantec.com	It's the granddaddy of imaging apps and still one of the best
	Nero 6 Ultra Edition (Version 6.6)	Nero (formerly Ahead Software)	$79.99	www.nero.com	You can do just about anything with this program: capture, copy, burn, and edit audio and video
	Adobe Premiere Elements 2.0	Adobe	$99.99	www.adobe.com	Absolutely the coolest, easiest way to create, edit, and burn DVD video

Capture Holiday Memories

Digital Cameras

Film is so . . . um, '90s. These days, almost everyone is using digital still cameras that let you shoot as many photos as you want, preview pictures immediately, and edit images on your computer. If someone you know hasn't yet joined the digicam revolution, or if you're thinking about upgrading, this is your chance to see what's available.

Best Digital Camera For Less Than $500

Canon's PowerShot SD500 Digital ELPH

The SD500 is latest member of Canon's compact ELPH line of digicams ($499; www.powershot.com). The SD500 is a basic point-and-shoot model with a large 2-inch LCD (liquid-crystal display) and a 7MP (megapixel) sensor.

Best Digital Camera For $500 To $1,000

Canon's EOS Rebel XT

Canon's original Rebel broke the $1,000 price barrier for digital SLR (single-lens reflex) models, but it did so by sacrificing some features. The Rebel XT, however, does things right—with a full feature list and faster performance ($999; www.powershot.com).

Best Digital Camera For $1,000 To $1,500

Canon's EOS 20D

If the excellent resolution, low noise, and tremendous battery life aren't enough to sell you on the 20D, maybe the 5fps (frames per second) shooting speed, solid construction, and seemingly endless list of features will ($1,499; www.powershot.com).

Software Santa

	Application	Company	Price	URL	Comments
	Adobe Photoshop Elements	Adobe	$99.99	www.adobe.com	Much of the power of Photoshop, but costs less and has a shorter learning curve
	Paint Shop Pro 9	Corel (Jasc Software previously owned Paint Shop Pro)	$129	www.corel.com	Paint Shop Pro is fast, powerful, and easy to use (version 10 may be available by the time you read this)
	Microsoft Digital Image Suite 2006	Microsoft	$99.95	www.microsoft.com	A simple, straightforward way to find, fix, share, and edit your photos

Better Output From Your Input

Inkjet Printers & Scanners

These days, you can accurately scan an image or document and make great color prints for almost nothing, relatively speaking. Of course, the printer companies will charge you an arm and a leg for ink cartridges, but that's another story. The printers themselves are quite affordable, and scanners can be even cheaper. Here are our favorites in these two categories.

Best Inkjet Printer For Less Than $150

Canon's PIXMA iP4200 Photo Printer

This super-affordable inkjet uses equally inexpensive inks stored in individual cartridges ($129.99; www.usa.canon.com). It also has built-in dual-paper paths and duplex printing capability.

Best Inkjet Printer For $150 To $300

HP's Photosmart 8250 Photo Printer

HP's new printing technology means that the 8250 can zip through 4- x 6-inch photos in only 14 seconds. And in a break with HP tradition, this model uses six individual ink cartridges, which means less wasted ink ($199.99; www.hp.com).

Best Color Scanner For Less Than $100

Epson's Perfection 2480 PHOTO Scanner

With more optical resolution than you'll probably ever need, Epson's bundled Easy Photo Fix is a great tool for digitally sprucing up older photos or scanning documents ($99; www.epson.com).

Best Color Scanner For $100 To $250

HP's Scanjet 4890 Photo Scanner

This model boasts the same optical resolution as considerably pricier scanners—plus, it's fast: You can preview scans in as little six seconds and scan multiple images into individual files in about 10 seconds ($199.99; www.hp.com).

Software Santa

	Application	Company	Price	URL	Comments
	InkSaver 2.0	Software Imaging	$34.99	www.inksaver.com	Cool tool to help you conserve your expensive ink cartridges
	Adobe InDesign CS2	Adobe	$699; $349 upgrade from PageMaker	www.adobe.com	One of the best desktop publishing apps around; replaces Adobe's venerable PageMaker line; pricey, but well worth it if you need professional results
	FineReader 7.0	ABBYY Software House	$299.99	www.abbyy.com	Our favorite OCR (optical character recognition) software; fast, accurate, and easy to use
	Presto! BizCard 5	NewSoft Technology	$79; $69 download	www.newsoftinc.com	Great for scanning business cards to create contact lists, mail merges, etc.; there's also a version that includes a business card scanner

USE YOUR BRAIN

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High Efficiency Digital Amplification	
Wireless Remote	cool
Built-in iPod® Cradle	
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Onboard Digital Signal Processor	
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Do It All: Fax, Copy, Scan & Print

Multifunction Devices

Known as MFDs (multifunction devices), these all-in-one machines are now less expensive and much more reliable than they used to be. Why clutter up your work (or play) area with a fax machine, a copier, a scanner, and a printer when one tool can do it all?

Best MFD For Less Than $100

HP's PSC 1410 All-in-One

Yep, you really can get a decent MFD for less than 100 bucks ($79.99; www.hp.com). Although the PSC 1410 doesn't include a faxing component, it does have a copier, a scanner, and a printer. Plus, it's capable of printing up to 18 pages per minute in black and up to 13 pages in color.

Best MFD For $100 To $300

Canon's PIXMA MP750

This is a solid MFD that doesn't make you sacrifice performance for a lower price ($249.99; www.usa.canon.com). The MP750 can spit out 25 black-and-white pages per minute and up to 17 color pages per minute.

Best MFD For $300 To $500

HP's Officejet 7410 All-in-One

With higher print speeds than similarly priced competitors and a monthly duty cycle of 5,000 pages, this MFD is a good choice for home and small-business offices ($499.99; www.hp.com).

Software Santa

	Application	Company	Price	URL	Comments
	Peachtree First Accounting 2006	Sage Software	$99.99	www.peachtree.com	The hands-down favorite for home- and small-business accounting; a full-blown package with general ledger, AP, and AR modules
	WinFax PRO	Symantec	$99.95	www.symantec.com	The most popular fax software for home and small-business users; schedule your faxing to take place during evening hours or in the background while working on other tasks
	Snappy Fax	Snappy-Software.com	$19.99	www.snappysoftware.com	Most of us don't need all the extras (and the $100 price tag) that come with WinFax PRO; Snappy Fax has been around for years and offers features you wouldn't expect to see in such a low-priced package

High-Tech Printing Goes Mainstream

Laser Printers

There was a time when laser printers were strictly for office use—and fairly large offices, at that. Now, though, lasers have begun appearing in home offices and are being used for everything from homework to shopping lists. Here are the ones we liked best this past year.

Best Black-And-White Laser Printer For Less Than $300

Dell's Laser Printer 1700n

This model's high print speeds and large memory upgrade capability make the 1700n a great buy for a black-and-white laser printer ($299; www.dell.com).

Best Black-And-White Laser Printer For $300 To $700

Oki Data's OKI B6200n

The high memory capabilities, low fpo (first page out) time, and networking capabilities push the OKI B6200n to the forefront of the midlevel laser printing stage ($681.99; www.okidata.com).

Best Color Laser Printer For Less Than $500

The Brother HL-2700CN

You don't have to sacrifice quality just to save a buck or two; this printer can give you quick, quality prints at a decent price ($499.99; www.brother-usa.com).

Best Color Laser Printer For $500 To $1,000

Dell's Color Laser Printer 5100cn

With high print speeds and large input capacity, the 5100cn is a true workhorse. As its 90,000-page monthly duty cycle maximum suggests, this color laser printer isn't afraid to take on print jobs that would leave other printers in the dust ($899; www.dell.com).

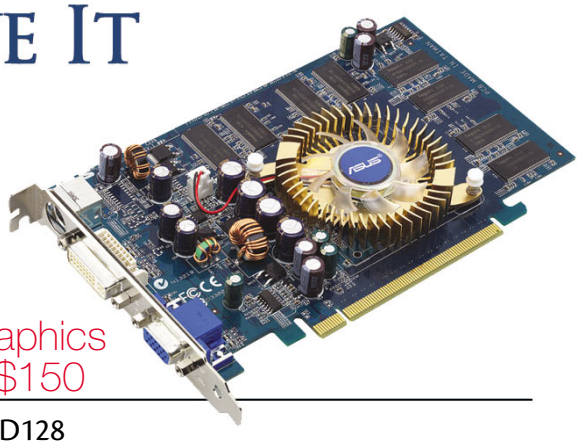
Software Santa

	Application	Company	Price	URL	Comments
	Quicken Deluxe 2006	Intuit	$49.99	www.intuit.com	Just about everything you need to manage your home finances, except self-restraint
Google Earth	Google Earth	Google	Free	earth.google.com	View satellite images of almost anywhere, travel through cities in 3D, and add your own destinations; makes for great prints on that new color laser printer
	QuarkXPress 6.5	Quark	$1,045; $199 educational version (for students and instructors)	www.quark.com	The desktop publishing application of choice for professionals everywhere, and for good reason

The Eyes (& Ears) Have It

Video Cards & Sound Cards

There are so many great video and sound cards out there that we had a hard time choosing our favorites. Not only that, but today's motherboards often have pretty decent integrated sound and video, so add-on cards really have to . . . well, add something special. These do.



Best PCI Express Graphics Card From $150 To $300

MSI's RX800PRO-TD256E

Finding an ATI Radeon X800 Pro-based video card for this low price is almost a crime ($299; www.msicomputer.com/index2.asp). The RX800PRO-TD256E can handle games such as Far Cry, Doom 3, and Half-Life 2 with relative ease; if this description sounds like a foreign language to you, the gamer in your family will tell you this is a major selling point.

Best PCI Express Graphics Card For Less Than $150

The ASUS Extreme N6600/TD128

This newer video card lets you play today's popular video games without sacrificing quality. The Extreme N6600/TD128 uses NVIDIA's GeForce 6600 chip and has 128MB of onboard memory ($112; usa.asus.com).

Best Sound Card For Less Than $50

Creative's Sound Blaster Audigy 2 Value

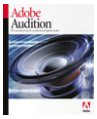
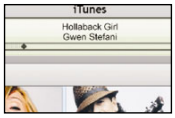
For the money, we can't fault the Audigy 2 Value card's sound quality ($49.99; www.creative.com). There are many other bargains under $50, most of which sound perfectly fine, but if you aren't shopping for a specific feature, the Audigy 2 Value is probably your best bet.

Best Sound Card For $50 To $100

Creative's Sound Blaster Audigy 2 ZS

The Audigy 2 ZS stands out as a great all-around package. Gaming, DVDs, and music manipulation—you're pretty well covered here, at least at the consumer-enthusiast level. Actually, this THX-certified card's 108dB (decibels) SNR (signal-to-noise ratio) is probably way better than your speakers could ever live up to ($93; www.creative.com).

Software Santa

	Application	Company	Price	URL	Comments
	Adobe Audition 1.5	Adobe	$299; $249 competitive upgrade	www.adobe.com	A couple of years ago, Adobe bought Cool Edit Pro, a well-respected audio-creation app, and has since added its own stamp to what was already a great product
	Apple iTunes	Apple Computer	Free software; 99 cents for each song	www.apple.com	Apple designed a cool music player/organizer and created a Windows version "for the rest of us," so even if you don't have an iPod, this is a great way to purchase, store, and play music
	Black & White: Creature Isle	EA (Electronic Arts)	$9.95	www.eagames.com	If you were God, how would you govern? Find out and test your new video card; this original release may be hard to find ("Black & White 2" also is available, but may be crude)

Talk To The Machine

Keyboards & Mice

Yes, having to mess with a mouse and a keyboard is a pretty clumsy way to communicate with a computer, but until someone builds the HAL 9000, we're just gonna have to live with it. Come to think of it, maybe we're better off this way.

Best Keyboard For Less Than $50

Kensington's PilotBoard Multimedia Keyboard

A chrome-and-black color and low profile make for a sleek, modern look, but this keyboard has more to offer than good looks alone. Its keys are quiet and have just enough resistance, and the keyboard boasts media buttons that let you start your media player and control the system's volume, as well as a scroll wheel on the left side that controls certain features (usually Zoom or Scroll, depending on the application). Plus, it's hard to beat its price ($24.99; www.kensington.com).

Best Keyboard For $50 To $100

Logitech's Cordless Desktop LX700

This keyboard is a bit pricey, but it has Logitech's trademark Zero-Degree Tilt design, which means that users who struggle with traditional typewriter-like staircase designs can more easily reach these rows of keys. But the best thing about this keyboard is its mouse-charging station ($99.95; www.logitech.com).

Best Mouse For Less Than $50

Kensington's PilotMouse Optical Pro Wireless

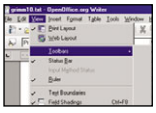
Kensington's mice have a slight advantage over other optical mice: the company's excellent MouseWorks software. Also, you can program a Kensington mouse's buttons to perform different tasks in each program ($39.99; www.kensington.com).

Best Mouse For $50 To $100

Logitech's MX1000 Laser Cordless Mouse

Now there's another new technology that helped Logitech develop its laser mice. We were skeptical at first, but then we spent some time with the MX1000; it really does track more precisely and on a much wider range of surfaces than optical mice ($79.95; www.logitech.com).

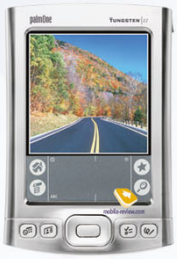
Software Santa

	Application	Company	Price	URL	Comments
msn	MSN Messenger	Microsoft	Free	www.microsoft.com	Yeah, we know, but let's face it: Microsoft has the widest audience and MSN Messenger happens to be a cool instant messaging application
	OpenOffice.org	Open Office.org	Free	www.openoffice.org	Where else can you get a very nice, relatively complete office suite for free? Plus, it's almost 100% Microsoft Office-compatible . . . and free . . . did we mention that it's free?
	Linspire 5.0	Linspire	$59.95 package; $49.95 download	www.linspire.com	If you've been wanting to explore Linux, this may be the easiest way to do it (plus, check out Peter van der Linden's book, "Guide To Linux")

Work & Play

PDAs & MP3 Players

Why did we combine these two categories of devices? Because more and more often, they're becoming the same thing. These days, most PDAs (personal digital assistants) can play music (and play it quite well), while most "pure" MP3 players are beginning to offer PDA-like features such as calendars and appointment books. Soon, you'll just carry around a little chip that will let you make phone calls, play music, set up appointments, and groom your dog.



Best PDA For Less Than $250

Palm's Tungsten E2

For the money, Palm's Tungsten E2 packs a lot of punch. The original Tungsten E was quite successful, so it's no surprise that the revised E2 also is getting rave reviews. The new model has a brighter color screen, longer battery life, and nonvolatile flash memory that the old Tungsten E didn't have ($249; www.palm.com).

Best PDA For $250 To $650

HP's iPAQ hx4705 Pocket PC

This is a great PDA that can do it all. With integrated WLAN (wireless local-area network) 802.11b, it's nice to be able to Web surf from the couch or from Starbucks. The unit has a 4-inch VGA (Video Graphics Array) TFT (thin film transistor) display with a 640 x 480 resolution, which is amazing for such a small device ($649; www.hp.com).

Best Digital Music Player For Less Than $100

Digital Networks' Rio Forge 128MB Sport Player

Flash memory-based players cost more per megabyte than hard drive-based players, but runners and other active users need a device that won't skip a beat, and Rio clearly recognizes this. Its Rio Forge Sports Player comes with an armband and has a built-in stopwatch and lap timer ($89.99; www.rioaudio.com).

Best Digital Music Player For $100 To $300

Apple's 20GB iPod

The current full-sized iPod has all the features of earlier models, including the familiar iPod interface, PDA-like Calendar and Contacts features, as well as Games and Notes. However, the iPod now also has a color LCD (liquid-crystal display) that can display album artwork and your own digital photos ($299; www.apple.com/ipod/color).

Software Santa

	Application	Company	Price	URL	Comments
	Pocket Tunes 3.1 Deluxe	NormSoft	$14.95 Basic version; $34.95 Deluxe version	www.normsoft.com	Very cool MP3 player for the Palm OS platform; Deluxe version lets you listen to Internet radio
	AvantGo	iAnywhere Solutions	Free	www.avantgo.com	A free and easy way to place Web content on your PDA
	Davis's Drug Guide	Unbound Medicine	$49.95	www.unboundmedicine.com	Need medical or drug info? Check out Davis's Drug Guide or Unbound Medicine's other medical PDA titles

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As the leader in women's computer luggage, Mobile Edge has created the Caring Case Collection™ as our way of "giving back" to those in need. These 'Limited Edition' cases are specifically designed to carry a notebook computer along with your everyday accessories and feature the distinctive pink ribbon medallion. We will donate 10% of the proceeds from the sale of these cases to the Susan G. Komen Breast Cancer Foundation. For more information on this collection please visit www.mobileedge.com or call 714.399.1400.

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Video Goodness

Monitors & Displays

The best PC in the world does you no good if you have to strain your eyes just to see what's happening on-screen, so here are our picks for the best CRT (cathode-ray tube) monitors and LCDs (liquid-crystal displays) to accompany that computer of yours.

Best CRT For $200 To $500

ViewSonic's G810B Monitor

Big and burly, ViewSonic's G810B tips the scales at 50.6 pounds. We'll be among the first to admit that this isn't the type of monitor you want to lug around for more than a few seconds, but it's a compromise we're willing to make for the 21-inch G810B's maximum resolution of 2,048 x 1,536. Once you experience the tremendous amount of workspace this resolution offers you, it'll be hard to return to smaller monitors ($455; www.viewsonic.com).

Best LCD For Less Than $500

ViewSonic's VX924 LCD

Anyone who's ever tried to watch a DVD on a PC knows that a slow response time—the amount of time it takes an LCD's pixels to change colors—is crucial for preventing motion blur. CRTs still reign supreme, but the naked eye probably won't notice much difference with the VX924's 4ms (millisecond) response time. We guarantee the naked eye *will* notice a difference in the VX924's physical size, though; it weighs a svelte 14.8 pounds ($499; www.viewsonic.com).

Best CRT For Less Than $200

NEC's AccuSync 900-BK Monitor

At 19 inches, its screen is big enough for almost any job. This is a solid monitor with high refresh rates, a 1,600 x 1,200 maximum resolution, and a decent 0.25mm (millimeter) dot pitch for sharpness ($199.95; www.dell.com).

Best LCD For $500 To $800

Dell's UltraSharp 2005FPW LCD

Dell's 2005FPW is a fine LCD in its own right. Because it's a widescreen display, you'll be able to bolster your productivity and put a new spin on multitasking. With 20.1 inches of viewable area and 1,680 x 1,050 native resolution, simply using the 2005FPW will make you wonder why you didn't buy a widescreen LCD earlier. But an equal draw to this monitor is Dell's astounding (and frequent) rebates; for example, this unit's retail price is $749, but we found that we'd be able to get it for $486.85 (at press time) via Dell's Web site (www.dell.com). That's quite a deal.

Software Santa

	Application	Company	Price	URL	Comments
	WinDVD 7 Platinum	InterVideo	$49.95	www.intervideo.com	If you're going to play DVDs on your PC, you can't do any better than this app
	PowerStrip 3.61	EnTech	$29.95	www.entechtaiwan.com	A cool little utility that can control just about everything related to your monitor and video card; perhaps most importantly, it lets you calibrate your display so that colors are accurate
	Tiger Woods PGA TOUR 06	EA (Electronic Arts)	$39.95	www.ea.com	Time to put that cool new monitor or LCD to work while you sharpen your golf game (what else are you gonna do all winter?); this program has great graphics and solid gameplay

Everyone Needs Toys

Goodies 'N Gadgets

Most of us here are gadget freaks and proud of it. Give us something—anything—with buttons and lights, and we're happy for days. Here are some of our favorite holiday goodies that we put into a category of their own because . . . well, quite frankly, they just didn't fit into any of our other categories.

NETGEAR's PS121 Mini USB Print Server

This handy little gadget lets you share a printer on your network without connecting the printer to any specific PC. It's easy to install and works like a charm ($69.99; www.netgear.com).

Canary Wireless' Digital Hotspotter

Wondering where you can find a wireless hotspot? Wondering if *your* hotspot is protected? This Wi-Fi detector can tell you which wireless networks are available, plus it lists the network's SSID (Service Set Identifier), signal strength, channel, and encryption status ($59.95; www.canarywireless.com).

Digital Innovations' SkipDR AUTOMAX Motorized Disc Repair System

This product provides an easy and convenient way to clean your CDs and DVDs. With the device, you can buff out minor scratches and solve skipping problems ($39.99; www.digitalinnovations.com).

Prime Entertainment's QX5 Computer Microscope

Good microscopes are expensive, and those that interface with a PC are even more high-priced. This affordable, easy-to-use device magnifies up to 200X and includes software that controls lighting and brightness. In addition, the QX5 lets you take digital snapshots, shoot video, and make time-lapse photos. It's a great gift for kids and teens, as well as for their scientific-minded parents ($79.99; www.playdigitalblue.com).

Altec Lansing's inMotion iMplus Portable Audio System

While you're shopping for iPod accessories, you also should check out this iPod dock/player. Not only does this device turn your iPod into a mini-stereo (just plug the player into the dock and blast your tunes), but it also includes headphones ($149.95; www.altec-lansing.com).

The Metroline Kit

Just the tools you need for messing with your PC: handy screwdriver, flashlight, wire stripper, mirror, and more. Think Swiss Army Knife—but this set of tools is much more fun and much less expensive ($19.95; www.metrolinekit.com).

Speck Products' SkinTight & ToughSkin Protectors

These products provide classy protection for smartphones, iPods, and PDAs. They're rubberized for easy gripping, and they include a screen protector ($19.95 and $34.95; www.speckproducts.com).

Hauppauge's WinTV-PVR-USB2

With this personal video recorder, you can watch TV on your PC while you surf the Web or actually accomplish some "real work." No need to open the PC's case, either, because this device works via your USB 2.0 port ($149.99; www.hauppauge.com).

The Deluo GPS Lite

Here's a simple, affordable way to get into the habit of using GPS (global positioning system) technology. Connects to a PC, to a laptop, or (with an adapter) to a PDA. Although the Deluo GPS Lite comes with Rand McNally's StreetFinder software, it will work with almost any GPS-enabled mapping application ($64.90; www.deluogps.com).

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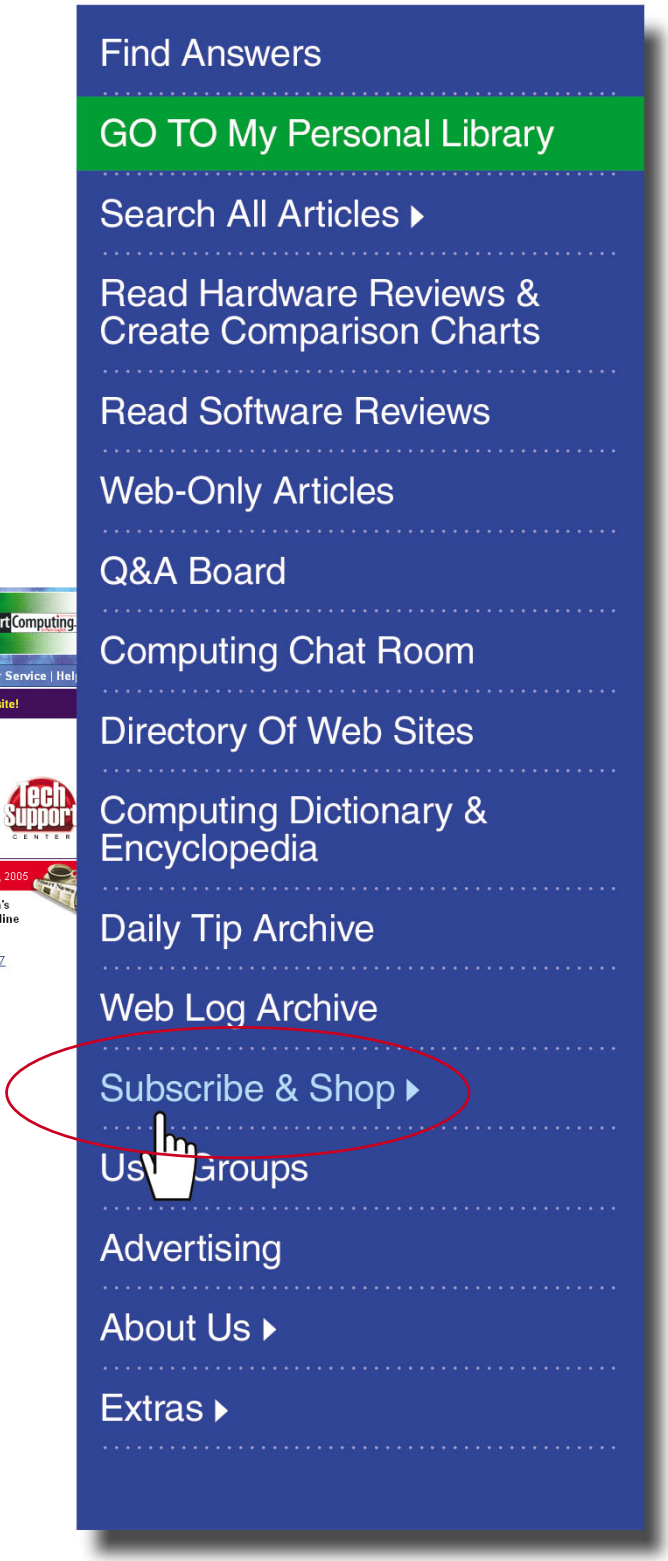

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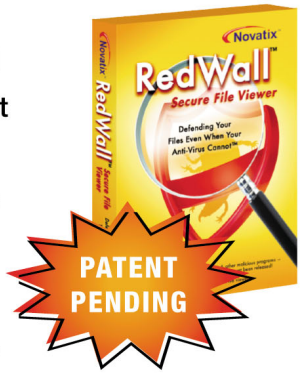
RedWall stops new threats WITHOUT needing new signature files, so you're protected even against brand new threats. RedWall Secure File Viewer is always one step ahead, giving your anti-virus and anti-spyware time to react.



- **PROACTIVE ZERO DAY PROTECTION** Know your company data is protected even when the latest virus definition files have not yet been released.
- **BLACK BOX PREVIEWING** Safely preview files in a "quarantined" no-risk environment to ensure they contain legitimate data and not viruses or other malicious code.
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Tool Time

Build The Ultimate PC Tool Chest

In 1982's "Fast Times at Ridgemont High," spaced-out character Jeff Spicoli demolishes a shiny, blue Mustang belonging to his friend's monstrous, football-playing brother. But he tells his terrified friend not to worry.

"Relax, all right? My old man—he's a television repairman. Got this ultimate set of tools. I can fix it."

Indeed, with the right tools, you can accomplish just about anything. In fact, the more tools you have, the better prepared you are to handle any task, any problem, any project that comes your way. For PC users, a hard drive that's well-stocked with trustworthy utilities is golden because these tools can expand and enhance their ability to perform everyday tasks and make their computers faster, more efficient, and generally more enjoyable.

On the following pages, you'll find the ingredients to stock the ultimate set of PC tools. Depending on what you do on your PC, you won't necessarily need each and every one of them, but they all do their jobs well enough that it can't hurt to have them around in case a need should arise.

Task-Oriented Tools

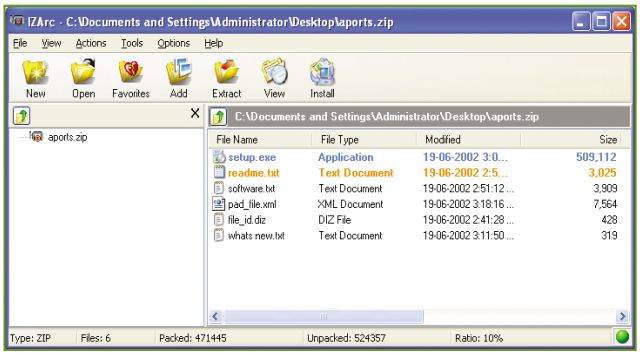
The biggest challenge when performing tasks on your PC doesn't always lie with the tasks themselves but with the search for tools that can do the job right. There are thousands of utilities that can help you burn, back up, and zip up, but these are the best of a massive bunch.

Google Desktop (free; desktop.google.com)

With information barreling at you and your PC from every possible angle, finding a file or other data can be akin to finding a needle in a mile-high haystack. Google Desktop puts information from your files, email, chat logs, and Web history at your fingertips, helping you perform fast, easy searches directly from your Windows Desktop. With a fully configurable sidebar, you also can display constantly updated news, weather, stocks, and other data.

IZArc (free; www.izarc.org)

There are several impressive free archive programs available today, but IZArc stands just above the rest. Even many former WinZip lovers prefer IZArc because of its straightforward interface, ability to handle a wide range of formats, and hassle-free integration with the Windows Explorer shell. Features include creation of self-extracting archives, antivirus integration, customizable toolbar, and color-coded file listings.



IZArc's Windows Explorer-like interface and color-coded file listings help you easily distinguish the contents of compressed files.

Nero 6 Ultra Edition ($79.99; ww2.nero.com)

Burning CDs and DVDs doesn't need to be a chore, whether you're copying a disc, creating an audio CD, copying data, or making a backup. Ahead Software's Nero is burning done right—with an intuitive layout that offers plenty of options for every type of burning task. Be sure to also take advantage of this utility's BackItUp and Cover Designer features. True, Nero isn't cheap, but it's everything you need for burning.

SmartFTP (free; www.smartftp.com)

Whether you use FTP (File Transfer Protocol) a little or a lot, SmartFTP can save you plenty of headaches with a sensible, clutter-free interface and smart transfer features that take advantage of high-speed connections. Browsing through local and remote folders is as simple as perusing Windows Explorer, complete with efficient drag-and-drop ability. SmartFTP also features automatic reconnection and resumption of broken transfers, thorough firewall support, and FXP (File eXchange Protocol) support, which lets you copy files from one FTP server to another.

MWSnap (free; www.mirekw.com)

You can snap a couple types of screen shots in Windows, but your options are relatively limited if you need a screen shot of a particular area on the screen, and cropping a larger screen shot can consume plenty of time. Instead, use MWSnap, a powerful utility that captures anything, including menus, windows, fixed or freely-drawn rectangular portions of the screen, or the entire Desktop. Screen shots can be saved in varying color depths and formats, including BMP (bit map), JPEG (Joint Photographic Experts Group), GIF (Graphics Interchange Format), PNG (Portable Network Graphics), and TIFF (Tagged Image File Format).

Picasa (free; picasa.google.com)

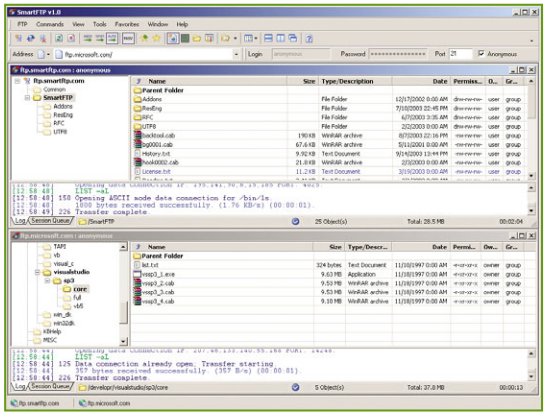
Even if you're a master of Windows Explorer, it can be tough to organize your digital pictures in a logical way. Google's Picasa takes picture organization to new heights with a scanning process that lets you easily see your pictures, move them, and rename them. Picasa also includes labeling and rating systems that can help you group pictures, plus you can keep single pictures in multiple albums, similar to how Google lets you store email in its Gmail service. This free utility also includes a nice selection of editing tools to give your pictures some basic touch-ups.

SyncBackSE ($20; www.2brightsparks.com)

Although you can use regular burning software to back up your data, specialized backup software such as SyncBackSE will give you more power over what you back up and how you do it. Backups are fast and effortless, and aggressive compression keeps your files small and manageable. Single-button recovery gives you ease of mind, as does the utility's 256-bit AES (Advanced Encryption Standard). True to the "sync" in its name, SyncBackSE also can keep two computers perfectly synchronized with the same files.

Restoration (free; www.geocities.jp/br_kato)

People who accidentally delete files will gladly pay ridiculous amounts of money for recovery software, but here's a secret: You don't necessarily need to pay anything. Restoration may not look pretty, but it does a darn good job of scouring hard drives for previously deleted files. This utility lets you search complete drives or search for a complete or partial file name. When you find a deleted file,



Navigating between local and remote files using SmartFTP is a cinch, thanks to the utility's familiar folder architecture.

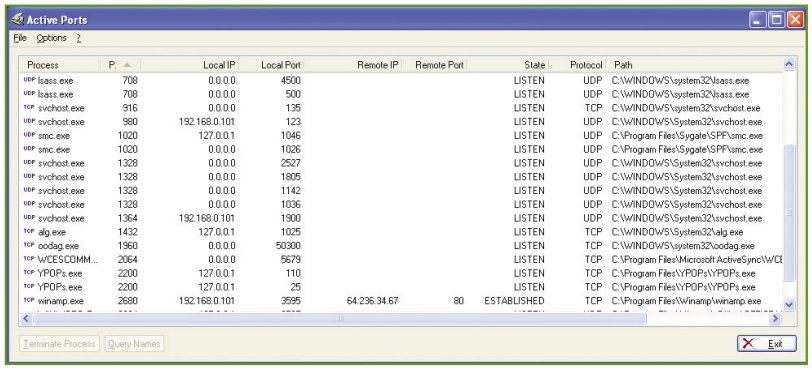
you can simply copy it to the location of your choice.

Security

A standard toolbox might include bolt cutters and other tools that help you break *in* to places, but the PC toolbox needs to have tools that keep intruders *out*. If there's one drawer of your PC toolbox that you neglect, don't let it be the security drawer.

ewido security suite ($29.95; www.ewido.net)

Although antivirus applications do a better job today of detecting and eliminating Trojan horses than they used to, we still need specialized applications to catch the trickiest intruders. The ewido security suite offers real-time protection against Trojans, keyloggers, worms, hijackers, spyware, and dialers with its daily updates, vigorous analysis tools, and heuristic scanning to detect unknown threats. This utility will even scan and clean out the Windows Registry and then scan within archives, and its current threat database covers more than 185,000 known threats.



Watching your ports is key to keeping a secure network, and Active Ports helps by identifying all open ports and listing the programs using them.

Ad-Aware SE Personal Edition (free; www.lavasoftusa.com)

As one-half of the double-barreled free approach to eliminating spyware, Lavasoft's Ad-Aware is a longstanding favorite of security buffs. With its slick interface, regular updates, and efficient scanning, this program almost makes dealing with spyware a joy, particularly when it returns the usual horde of suspects after a scan. In addition to spyware, Ad-Aware can also find and delete privacy-related items such as search terms used in the Google toolbar, documents opened by Microsoft Word, the last download directory used by Internet Explorer, and others.

Spybot Search & Destroy (free; www.safer-networking.org)

This program is the other half of the free antispyware elimination strategy, and while it isn't nearly as attractive as Ad-Aware, it's equally effective. Spybot will find entries that Ad-Aware doesn't, so it's wise to use both programs (one at a time) each time you scan for spyware. As with other security programs, be sure to regularly update Spybot so that it's always using the most current spyware definitions. Spybot also includes some immunization features, but you're better off using SpywareBlaster for prevention.

SpywareBlaster (free; javacoolsoftware.com)

Ad-Aware and Spybot are adept at eliminating spyware, but they won't do much to prevent it from appearing on your computer; in fact, by the time you scan, any installed spyware might already have leaked information to a remote party. SpywareBlaster prevents the installation of ActiveX-based spyware, adware, browser hijackers, dialers, and other intrusions, and it can block suspicious cookies via IE and Firefox. One of the most appealing aspects of SpywareBlaster is that it doesn't hog system resources because it doesn't even need to be running in the background.

Active Ports (free; www.protect-me.com/freeware.html)

A properly configured firewall can help trounce rogue applications before they can connect to the Internet from your PC, but some are slippery enough to slide through. With Active Ports, you can get an immediate look at all open TCP/IP (Transmission Control Protocol/Internet Protocol) and UDP (User Datagram Protocol) ports on your computer, and you don't need to have a mountain of networking certifications under your belt to understand the data. Active Ports instantly analyzes all connections and lists the process, remote IP address, remote port, and path of the program using the process for each entry.

Kaspersky Anti-Virus Personal ($39.95; www.kaspersky.com)

No antivirus utility is perfect, but Kaspersky's Anti-Virus Personal comes fairly close, with an interface that's a breeze to navigate and a wealth of options for fine-tuning your protection to the way you want it. If you don't want to fuss over your antivirus protection, this utility lets you select from one of three levels of protection that instantly configures the protection. Kaspersky can detect viruses in more than 700 compressed file formats, and it offers new virus definitions every hour.

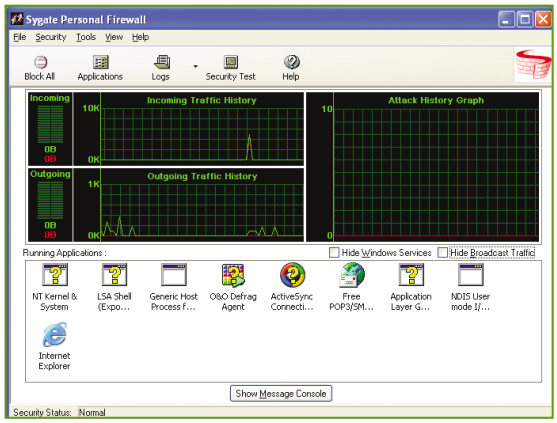
AVG Anti-Virus Free Edition (free; free.grisoft.com)

Don't want to pay for antivirus protection? Not a problem. There are multiple free, regularly updated utilities that can provide round-the-clock protection. One of the most trusted

is AVG, which delivers nonobtrusive protection with a resident shield, email scanner, scheduler, update manager, and virus vault. Although you won't find the breadth of options available in paid antivirus utilities, you'll get enough to maintain reasonable control over your antivirus environment.

Sygate Personal Firewall (free; smb.sygate.com)

Even if you have a router, a software firewall is a good idea to monitor outgoing connections initiated by other software, including worms and Trojan horses. Some software firewalls are unnecessarily complex, but Sygate Personal Firewall includes default settings that make it amazingly easy to use. If you happen to like software complexity, this firewall does include plenty of intuitive options for creating advanced rules, and the software's interface displays all running applications, Windows Services, and incoming and outgoing traffic history.



One peek at Sygate's control window shows you all the applications using the network, all recent incoming and outgoing traffic, and any recent attacks.

Password Safe (free; passwordsafe.sourceforge.net)

With passwords required for almost everything today, it's impossible to keep all of them stored in memory and unwise to keep them stored on paper. A better solution is Password Safe, a free, Blowfish-encrypted utility that stores all of your passwords in one place. To use it, simply enter your safe combination (or password) in the Password Safe welcome window, double-click an entry to copy the password to your Clipboard, and paste it into the appropriate password field. Just don't forget your safe combination, and make sure you regularly back up your password file.

Efficiency & Customization

The most exciting PC tools are those that make our computers run faster, more efficient, and differently than the neighbor's computer. By tweaking the features and speed of common tasks, you can extract plenty of usefulness from Windows.

SpaceMonger (free; www.werkema.com)

Sure, you can use Windows Explorer to see how much free space you have left on your hard drives, but if you really want to see what's happening under the hood, use SpaceMonger. This nifty utility displays all files and folders as boxes that consume the overall storage of a hard drive, giving you a bird's-eye view of how much space certain programs and files are using in relation to other data.

O&O Defrag ($44.95; www.oo-software.com)

The watered-down version of Diskeeper included with Windows XP is frightfully inefficient, so if you want properly defragged hard drives, you need a third-party utility such as O&O Software's O&O Defrag, a powerful, easy-to-use defragger that works fast and transparently. The newest version features a one-button defrag, support for notebooks, and a screen saver mode. Aside from the brainless one-button mode, you can choose from five different defrag methods.

FlashGet ($29.95; www.amazesoft.com)

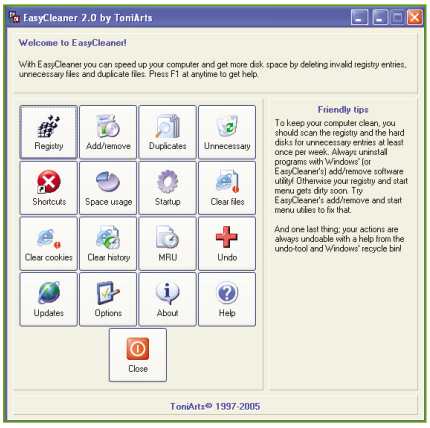
If you're still using a dial-up Internet connection, you need a download manager to both boost your download speeds and manage downloaded files. FlashGet boasts an increase in downloading speed of up to 500%, and although you might not experience an increase that ridiculously high, you'll definitely notice a marked improvement. This tool splits files into pieces and downloads them simultaneously to squeeze as much data as possible through your available bandwidth. Management features let you set the software to automatically dial up, hang up, and shut down—all on its own.

Microsoft PowerToys (free; www.microsoft.com/windowsxp/downloads)

Surprisingly, some of the best Windows tweaking utilities come from Microsoft itself, all in the form of PowerToys. These utilities expand on Windows functions to give you more power over your Windows environment, and all of them are stable and safe (even though Microsoft says it won't provide support for them). The best of the bunch is Tweak UI, which opens the door to a spectacular number of hidden Windows settings. Other winners are the Alt-Tab Replacement and Image Resizer.

Konfabulator (free; www.konfabulator.com)

Using a system of "widgets," Konfabulator lets you boost the usefulness of your desktop PC without sacrificing stability. Other desktop UI enhancers tend to be buggy, but Konfabulator features attractive, mostly reliable desktop additions that you can configure depending on your needs. About a thousand widgets are available, providing news feeds, weather, calendars, Web cams, traffic



You can't beat the feature set in EasyCleaner, which can clean the Registry, cookies, Internet history, duplicate files, and many more types of unnecessary data.

cams, reminder lists, alarms, games, audio players, search tools, conversion tools, and many more. Some widgets are memory-intensive, so if your system is low on RAM, you should limit the number of widgets you use at a time.

Cleaning Utilities

A clean PC is a happy PC, so you need utilities that can effectively seek and destroy all the garbage that inevitably accumulates on your hard drive. Windows includes basic cleaning tools such as Disk Cleanup, but for a thorough cleaning that actually makes a difference, you'll need specialized utilities designed to find *all* of the gunk. Consider these tools the steel wool to Windows' crumbly sponge.

EasyCleaner (free; personal.inet.fi/business/toniarts)

Over time, your Windows Registry grows clogged with unused data that can slow the performance of your computer. EasyCleaner is a compact, fast program that searches for invalid Registry entries and lets you delete any that you choose. But that's not all; EasyCleaner also removes invalid entries from the Add Or Remove Programs list, searches for duplicate files on your hard drive(s), lets you manage startup programs, and deletes privacy-related items, among other tasks.

AM-DeadLink (free; aignes.com/deadlink.htm)

Right now, chances are pretty good that your browser's bookmark file is full of links that point to dead pages. Chances also are pretty good that you don't feel like testing every single link to see which ones are actually dead. AM-DeadLink will do the dirty work for you by loading all of your saved bookmarks and checking every last one of them to see which work and which don't. The tool will tell you whether a particular page is OK, if it redirects you to a new page, or if it's gone altogether. You can then gather the dead pages together and delete them all at once.

Eraser (free; www.heidi.ie/eraser)

When you delete files in Windows and empty the Recycle Bin, the files aren't necessarily gone for good. Instead, Windows simply reallocates the data to another area until it needs that space because doing so is more efficient for the file system than actually deleting it. However, if someone uses recovery software, he can find files you thought you deleted. The Eraser program permanently deletes files quickly and easily by overwriting their data multiple times. You also can use this program to erase free space that could contain files you previously deleted using the aforementioned insecure method.

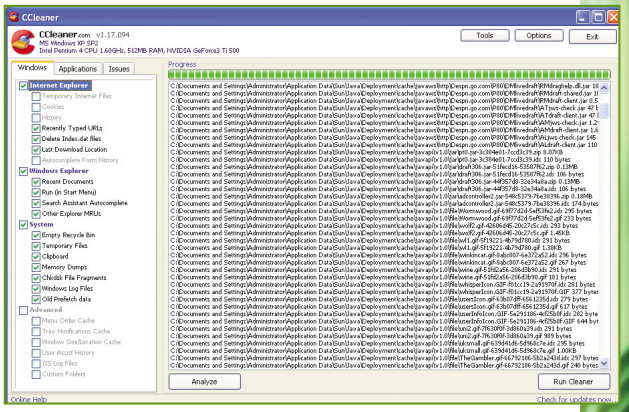
CCleaner (free; www.ccleaner.com)

If your computer accumulates more junk than a picnic attracts ants, you'll need a heavy-duty cleaner such as CCleaner. This no-nonsense utility finds all the usual junk, such as temporary Internet files and temporary Windows files, but it also finds rarely used data that's leftover from program installations, as well as unused logs, memory dumps, and useless program data. Because CCleaner is so powerful, make sure you inspect what it wants to delete before you actually delete it.

Careful With Those Tools

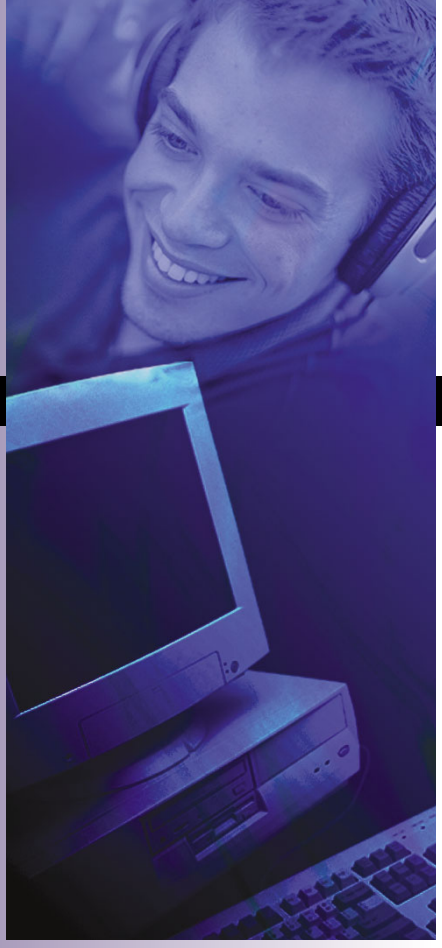
Although most PCs can handle any and all of these utilities, don't install them all at once—even if you can't wait to try them. It's better if you install each utility one at a time, test it for a while to make sure it works properly and doesn't conflict with anything else in your Windows environment, and then close it and install another one. For some utilities, especially the cleaning and tweaking programs, it's a good idea to close all other applications before using them.

Always read the software's manual or Readme file if you're not sure what a certain function does because one wrong move could cause you to lose data or otherwise screw up your previously stable PC. Above all, have fun with these tools and use them regularly to keep your PC humming like a well-tuned machine. ■



If you think you run a tight ship, let CCleaner prove you wrong as it finds more junk on your hard drive than you ever thought was possible.

BY CHRISTIAN PERRY



PC Project:

Connect Your PC To A Stereo

Revive Your Records, Transform Your Tapes, Or Just Play

Over the years, you've amassed an eclectic music collection to rival that of your favorite radio station. If you're the person your friends turn to for a rare Beatles B-side or an import CD that's impossible to find in any music store, you probably have enough LPs and cassette tapes to fill a closet or two. But now that we're firmly entrenched in a digital age of music defined in terms of CDs and MP3 players, those classics you have preserved on vinyl have been collecting dust.

Getting your music fix while you're working on your PC can be as simple as buying and downloading songs from Apple iTunes (www.apple.com/itunes) or **ripping** (the process of extracting audio data from an audio CD to store on your PC) a CD to your hard drive, but transferring music from analog cassettes and LPs to your PC is a slightly trickier (you can't exactly create an LP drive you can cram into your PC) task. So, you'll have to make an additional purchase to build a pipeline from your stereo to your PC, but all you need is an inexpensive cable or adapter, about 10 minutes to set up a connection, and a little time to download and install recording software.

We used this cable to connect our audio component, but you may only need an adapter if you already have the appropriate cables.

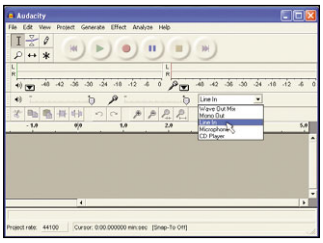
Technically, you can use Windows XP's Sound Recorder to record music to your hard drive, but we don't recommend it . . .

Mind Your Y's

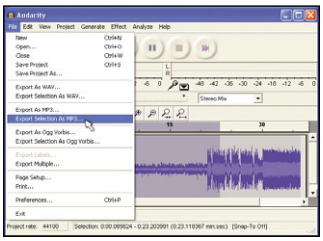
Assuming your PC has three audio ports—Line In, Line Out, and Mic In—buying a Y-adapter is probably the cheapest and easiest way to link your PC to a stereo or an audio component such as a turntable or a cassette deck. When connecting most audio components together, the inputs and outputs remain identical. For example, if you wanted to add a CD carousel to your stereo receiver, you would probably connect them with RCA, or composite, audio cables. Typically, these cables will have left and right plugs for two separate channels. Because receivers have composite inputs, connecting audio equipment is exceedingly easy. If all sound cards for PCs had composite audio inputs, connecting stereo equipment to your PC would be just as simple. No such luck. The Line In, Line Out, and Mic In ports use a single 3.5mm plug instead of RCA plugs. To make a connection from an audio device, we bought a Y-adapter audio cable, which has RCA plugs for RCA outputs on an audio component and a 1/8-inch plug for a PC's audio port.

We connected a record player that uses RCA outputs to our PC. (The same process applies to any audio component with RCA outputs.) First, though, we connected our adapter to our PC's Line In port. The Line In port is usually blue, but you should check your PC's

We connected the adapter cable's 1/8-inch plug to our PC's Line In port.



You'll need to select Line In from the drop-down menu as your recording source.



When we selected the portion of the recording that corresponded with a particular song, we exported it as its own MP3.

Certain sound cards, such as Creative Labs' Sound Blaster Audigy 2 ZS Platinum, include accessories that let you connect a host of audio devices.

manual. Don't confuse this port with the Line Out (typically green) port that's often used to connect PC speakers to a PC; the Line Out port will sit on the sidelines for most of this project.

Next, we attached our adapter cable to the record player. We connected the adapter's red male RCA plug to the player's red female output and did the same with the white male plug and female output. Once we finished connecting our record player to our PC, we needed software to harvest our tunes.

Send In The Songs

Technically, you can use Windows XP's Sound Recorder to record music to your hard drive, but we don't recommend it because it isn't designed for serious recording needs or converting album after album to a format you can easily store on your PC.

Instead, we downloaded Audacity 1.2.3. Not only is it free, but it's also open-source software, so advanced users can use their programming skills to make improvements to it. From Audacity's home page (audacity.sourceforge.net), we clicked Download Audacity 1.2.3 and Audacity 1.2.3 Installer. When we reached the Web page with a table of **host sites** (sites with servers that store data you can retrieve online), we found a U.S. host and clicked the file icon under the Download column. We waited a few seconds and clicked Run from the File Download dialog box.

After we downloaded the installer, we clicked Next and the I Accept The Agreement radio button. Following the wizard's steps, we clicked Next, Next, Next, Next, Install, and Finish. When we opened Audacity, we selected English from the drop-down menu and clicked OK. From Audacity's interface, we opened the File menu and clicked Preferences. In the dialog box, we clicked the Channels drop-down menu, selected 2, and clicked OK. Next, we selected Line In from the drop-down menu in the Audacity toolbar. When we started playing a record/tape on our player, we clicked the Record button on Audacity's interface. When it finished, we clicked Stop. Because MP3 files are compressed to save space, we chose to export the project as an MP3 and clicked File, Export As MP3, and Save.

Audacity also let us record an entire album and break each track down into its own MP3 file. We clicked and dragged to select recording portions we wanted to export, and then we clicked File, Export Selection As MP3, and Save. We had to listen to our recording to know where to break it up, but doing this let us record an album and split the tracks up at our convenience.

Although we were able to record tracks by connecting the turntable to our PC, we recommend that you first pass the turntable through a phono preamplifier or a receiver with a phono input for a far better signal.

Other Options

The method we described is one of the simplest to implement, but there are sound cards that have a plethora of inputs that let users directly connect analog audio components to PCs without using adapters or pre-amplifiers. Companies such as Creative Labs (www.creative.com) and M-Audio (www.m-audio.com) make sound cards with these inputs. For example, Creative Labs' Sound Blaster Audigy 2 ZS Platinum ($199.99; us.creative.com) has these audio inputs: composite, optical and coaxial SPDIF (Sony Philips Digital Interface Format), MIDI (Musical Instrument Digital Interface), Line In, and Microphone In. It also has software for recording your own music. Sound cards like this may be expensive, but they offer enthusiasts more options.

Transferring piles of analog tapes and records to your PC can be a time-consuming endeavor, but if you have a little time to set up the right equipment and a lot of patience, you can consolidate those stacks of vinyl and piles of cassettes into a single, convenient, and digital location. ▮

BY VINCE COGLEY

Quick Studies

Microsoft Word 2002

Format Text With Flair

Word Processing

Beginner

2002 for Win9x/Me/NT 4.0/2000/XP

Microsoft Word 2002 provides several ways of dealing with the formatting of text. You can compare formatting of text in one block to another, find all the text with a particular type of formatting, and copy the formatting of one block of text to another.

One Of These Things Is Not Like The Others

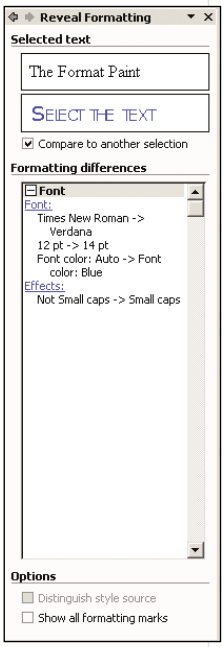
When creating a document, you may find that you have inadvertently typed text in various parts of the document in different formats. There's an easy way to identify these inconsistencies.

Click Format and Reveal Formatting to bring up the Reveal Formatting pane.

Select one of the two text blocks you want to compare. The font and paragraph characteristics will be shown in the pane, for example, Courier New 10 pt and Plain Text.

Click the Compare To Another Selection checkbox. Select the text block you want to compare to the first selection. The differences appear in the pane, sorted by category. For example, differences such as typeface, size, and line spacing will be displayed. The formatting for the first selection is listed first, followed by an arrow, and then the second selection's formatting is listed.

Click the blue Font or Paragraph hyperlink to open a dialog box that gives a full description of the text characteristics. Now you know exactly which text characteristics to change to make the text consistent.



Use the Reveal Formatting Pane to compare formatting for different blocks of text.

Quick Fixes Available

The Styles And Formatting pane provides another way to quickly apply formatting to achieve the text effects you want. We will look at a few of its functions here. Click Format and Styles And Formatting to open the pane. Click Show and choose Available Formatting.

Make sure that the style you are currently using has Automatically Update turned off. Otherwise, changes you make to the text you have selected will change the style and all instances of the style in the text. It's especially important not to make changes to fundamental styles such as Normal, which is the base for other styles. Right-click the style that corresponds to the text you are going to change, click Modify, and deselect Automatically Update.

Select the text you want to reformat. Click Format and Font or Format and Paragraph to make changes such as Font, Font Style, Size, Color, Alignment, Indentation, and Spacing. Click OK, and Word will automatically add a new style to the Styles And Formatting pane. Apply the new formatting anywhere you wish by selecting the text and clicking the style name in the pane.

The Styles And Formatting pane also gives you an easy way to find all instances of text with the same formatting. This comes in handy if you want to change all of the text at once. Select the block of text containing formatting you want to change. The text style for the text appears in a blue box in the Styles And Formatting pane.

Place the pointer over the far right of the box, and an arrow will appear. Click it, and you will see the words Select All x Instance(s), where x equals the total number of times the style appears in the document. Click it, and all the instances will be selected. Now you can apply a different style, modify the current style, or delete the style, which will place the text back in Normal style.

The Format Painter provides the quickest way to transfer formatting from one block of text to another. Use it if you know a particular block of text has the characteristics you want to use in any open document.

Select the text with the formats you want to paint elsewhere. Click the Format Painter button on the Standard Toolbar. The pointer changes to an I bar and brush. Select the text you want to change by clicking and dragging (double-clicking doesn't work). The selected text will change to the new format when you release the mouse button.

Format Painter acts in two ways, depending on whether you choose a selection of words or an entire paragraph. All font formatting, such as bold, color, and spacing, will be painted in the first instance. Paragraph formatting and styles will be painted in the latter instance. Remember that to highlight an entire paragraph, you need to include the paragraph symbol at the end. Click the Show/Hide Paragraph button on the Standard toolbar if you need to find the symbol.

Microsoft Word gives you the power to format text in myriad ways. This makes taking control of formatting simple.

BY TOM HANCOCK

Quick Studies

Jasc Paint Shop Pro 8

Now That's Warped!

Image Processing

Beginner

8 for Win98SE/Me/NT 4.0/2000/XP

(NOTE: Corel acquired Jasc Software, so the most recent version, Paint Shop Pro 9, may list Corel as the developer.)

We know that Paint Shop Pro 8 is a robust tool for serious graphics professionals, but we all need to have some fun, too. Several of Paint Shop Pro's features are geared toward the lighter side of photo- and image-editing tasks. Consider the warping tools, for example. The Mesh Warp and Warp Brush tools let you transform staid images into wild and wacky scenes.

Mesh Warp

The Mesh Warp tool lets you place a mesh, or grid, over an image and then warp the edges of individual nodes within the grid to create a subtle effect or a dramatic change.

To begin, open an image and make sure the Tools toolbar is visible. The second icon in this toolbar includes a set of distortion tools. If the Mesh Warp icon, which looks like a grid with a white spot, isn't showing, click the arrow next to the second icon and select the Mesh Warp icon from the menu. Doing so places a grid over your image. Place your pointer over any of the nodes (the corners of each box within the grid) until it changes to a set of four arrows. Drag the pointer anywhere you'd like, and when you drop it, the pixels within that node's associated "boxes" become stretched or compressed, giving that image's section a warped appearance. Drag and drop as many times as you want over various sections of the image to give it a partial or an overall warped effect.

To add specific distortion effects to photos, use the Warp Brush tool.

As with most of Paint Shop Pro's tools, you aren't restricted to the Mesh Warp tool's default values. When we first used the tool, the grid included five horizontal rows and five vertical rows to cover our square photo. As we discovered, you can open the Tool Options palette and change these values to as many as 32 rows and 32 columns. To change the number of columns, for example, go to the Mesh Horizontal field and type a number between 1 and 31. (The number you choose represents one fewer column than what actually appears on the grid.) Likewise, to change the number of rows, type a number between 1 and 31 in the Mesh Vertical field. (You also can use the up and down arrows next to either field to choose a number.)

Feel free to change these values as you work, and the software will preserve any of the warping effects you've already made to the image. And, if you don't like one of the warp modifications, just select Undo Mesh Warp from the Edit menu to undo the last warp adjustment (or undo the adjustments as far back as you like).

Warp Brush

The Warp Brush is another tool you can use to warp images; it works by using a brush to distort an image's pixels. This tool gives you a bit more precision than the Mesh Warp tool does.

In the Tools toolbar, click the arrow next to the seventh icon to find the menu containing Paint Shop Pro's brushes. From the menu select Warp Brush. To begin warping an image, just place the brush anywhere in your image and drag it in order to move the associated pixels to a new location.

OK, that was cool, but now it's time to get a bit more specific. You can control several of the Warp Brush's variables, including its size and the sharpness of the brush's edges. To make the brush larger or smaller, go to the Size box and type a number between 4 and 1000 (or use its drop-down menu to select a number). To make the edges crisper, increase the value in the Hardness field by as much as 100. Plus, you can control the strength of the effect. For a more subtle effect, decrease the value in the Strength field from 100, which represents a full strength of 100%, to a value of as little as 1%.

In addition, you can specify the type of warp you want to apply. The Warp Brush comes in several modes, including: Push, which moves pixels in the direction you move the brush (the default mode); Right Twirl, which moves the pixels clockwise; and Iron Out, which restores warped areas you haven't yet saved to their original condition.

To use any of these modes, select the desired one from the Warp Modes section of the Tool Options palette. And when you finish experimenting, don't forget to save your work via the Save As command, so you can rename the file and preserve the original image.

BY HEIDI V. ANDERSON

Microsoft Excel 2002

Headers & Footers

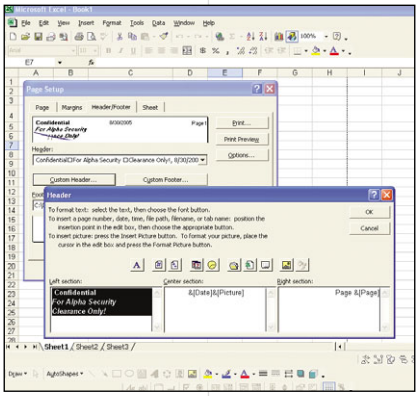
Spreadsheet

Intermediate

2002 for Win9x/NT 4.0/2000/XP

Do yourself a favor in the future by taking care of a little Excel housekeeping right now. At some time a week, a month, or a year from now, you'll pull out a printed worksheet and wonder when you made it, for whom you made it, and where you stored its electronic counterpart. Save your future self the questions by automatically adding this basic information to your worksheets with headers and footers.

Choose View and Header And Footer. The blank box at the top of the dialog box previews what will appear as the header on each of your pages. Because you haven't yet set up any kind of header, the box is empty when you open the dialog box. The same holds true for the lower blank box, which shows what's currently set up as your page footer.



Make your printed Excel worksheets easier to identify with Excel's standard headers and footers or versions you customize.

Basic Headers & Footers

Most Excel users tend to stick to several basic types of headers and footers for their spreadsheets. (No matter how much you like numbers, after all, spreadsheets usually aren't the place your creativity runs wild.) Excel covers the typical setups with preset header and footer entries in the appropriately labeled drop-down menus in the dialog box. The lists have choices such as Page 1; Page 1 of ?; the word "Confidential" followed by the date and page number; the file name; Sheet 1, Page 1; the page and file name; and the words "Prepared By" followed by your name, the date, and page number.

Click the header you want to use, and it will be entered at the top of each page—the page numbers will be updated to reflect each page. The drop-down menu of footer options matches the header list. By pairing a different header and footer, you can convey more information on each page, putting something such as your name, the date, and page number at the top of the page, and the file name at the bottom.

To see how your header and footer look on the page, click Print Preview. By default, the pointer appears as a magnifying glass. For a closer look at anything on the page, click to zoom in. Clicking again zooms back out to the original view. Click Close to return to the regular Excel view.

Going Custom

Let's say you're eager to express a little more personality in your spreadsheets. Or let's just assume you want to show different information than Excel's preformatted headers and footers provide. Either way, custom headers are what you're looking for. To create a custom entry, click the Custom Header or Custom Footer button in the dialog box and start getting creative. To build your custom entry around one of Excel's prefab headers or footers, choose them as described above and then click the appropriate Custom button.

The custom setup area offers left, center, and right sections. To enter text in any of them, click inside the box and start typing. Your text is customizable with all the tools you're used to in normal Excel cells. Highlight the words you want to modify and click the A button in the dialog box. Now you can choose a different font and size and add effects such as underlining and strikethrough.

Add items such as page numbers, time, and file names by using the other buttons in the middle of the dialog box. Click in the section you want to add the information to and then click a button. The buttons insert codes such as "&[PATH]" or "&[TIME]" in the header box, but they'll be replaced with actual information when you finish setting up your header.

If spreadsheet headers and footers are a real artistic outlet for you, try adding a photo to each Excel page. Images such as corporate logos work well here. Click the button with the little picture of a mountain on it. This opens a dialog box in which you can navigate through your files to select the picture you want to use. Double-click the file, and you'll bounce back to the Header dialog box and see that "&[PICTURE]" has been added.

When you return to Print Preview, you'll see the picture in place and may discover that your logo is taking up most of the page. To solve that problem, go back to View and Header & Footer and click Custom Header. Click in the box containing "&[PICTURE]" and then click the Format Picture button, which has a paint can on it. Here you can adjust the size of your picture, crop it, and tinker with the brightness and color.

BY TREVOR MEERS

ZŌN®

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Digital Audio

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Do It All Over The House.

No smoke, no mirrors – just 100% digital technology only from ZŌN. "For sheer wow factor, ZŌN is the winner" according to *Sound & Vision* (January 2005). "… the sound quality was excellent, and being able to handle digital signals from your sources puts ZŌN in a class by itself." Also unique to ZŌN are the easy to use Euro-styled in-wall amplified controllers (providing 60 Watts into 8 Ohms) and the ability to use the latest optical and coax digital audio components, and even old school analog audio (converted to digital by ZŌN). ZŌN elevates multi-room audio to new levels of perfection – it's like having live performers all around your house.

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Broderbund Print Shop 20 Deluxe

Send A Greeting

Desktop Publishing

Intermediate

20 for Windows 98/2000/Me/XP

Version 20 of Print Shop Deluxe provides more ways to deliver projects, such as animated greetings, to friends and family than previous versions. Version 15, for example, required you to go through the Broderbund Web site to send an animated greeting.

Take A Letter, Maria

You can create animated greetings within Print Shop and send them in new ways. This month, we'll look at creating animated greetings and these new ways to ship them off in this column.

Click File and New to bring up the Project Picker. Click Create A Project and Greetings. You'll have the option of creating various types of greetings: Click Animated Greeting and then Next.

The Animated Greetings Gallery opens, providing several categories of greetings. After you select a greeting you'd like to use, click Select. The Animated Greetings workspace opens, showing a preview of the animated greeting as it will look to its recipient.

Click the Replay button in the preview pane to see the full animation. When the animation ends, you can change the greeting by deleting the existing text and entering your own in the Customize Your Message Here pane at the bottom of the workspace. Click the Preview button to view the greeting with the new message.

The Animated Greetings workspace provides access to several ways to send your project.

If you decide to use a different greeting, click Choose Another Greeting on the left of the workspace to bring up the Animated Greetings Gallery. Choose a card and click Select.

Address It To My Wife

Use Send Via Instant Messenger for this method. If it isn't already installed on your PC, you will be asked to install Microsoft .NET Messenger Service. You will also need Microsoft Windows Messenger. You can use AOL Instant Messenger, as well, by attaching the greeting to a message.

Click Send Via Instant Messaging. A dialog box opens, where you name the greeting. Click Continue, and a dialog box will open with the contacts from your buddy list. Select the recipient and click Send. Print Shop sends the greeting as an executable file. The recipient will be able to view the greeting even if he doesn't have Print Shop on his computer. However, EXE files may be blocked by the recipient's messaging program because EXE files can be used to spread viruses.

Click the Send Via Email button to bring up the Send Via Email dialog box. Give the greeting a name and click Continue. The Choose Profile dialog box appears with a drop-down menu of the email applications installed on your PC. Choose one and click OK. Your email application opens with the file attached to a message. Proceed as you would when sending any other email. As with instant messaging, EXE files may be blocked by email programs because of security concerns.

We noted that instant messaging and email programs may not let you send an executable file because of security concerns. There's a sneaky way around this. Simply change the file extension before sending the file and tell the recipient to change the extension back to .EXE upon receiving it.

You can also save the greeting as a using the Export As function. Click the button, and you'll be presented with options for saving the greeting as an executable file or in Flash format. The executable file can be attached to an AOL Instant Messenger message if you use that service. Choose Flash if you plan to use the file on a Web page.

The final method for saving your greeting is to burn it to a CD. Click Burn To CD, name the greeting, and click Continue. The Burn Project To Disc dialog box appears, with the project name and the name of the optical burner on your PC. Deselect the Close Disc box if you plan on recording more files to the CD. You can only use Print Shop to record subsequent files. Otherwise, you run the risk of making the files recorded earlier unreadable. Click Start, and the file is burned to CD.

Gotta Start A New Life

Print Shop 20's new ways to send animated greetings give you more options for distributing your projects. Consider using these functions the next time you create an animated greeting.

BY TOM HANCOCK

Quick Studies

Corel WordPerfect 11

Use Word Lists

Office Suites

Advanced

Win9x/2000/Me/XP

One of the basic components of a good word processing program is its spell-checker tool. To use WordPerfect's Spell Checker properly, it's helpful to understand the sources on which it relies. Spell Checker compares your text against three word lists: the Main Word List, a User Word List, and a Document Word List.

Main Word Lists provide the spelling and grammar foundation for a chosen language or professional field. Using third-party software, you can add specialized medical or other technical Main Word Lists. To edit Main Word Lists, you must close WordPerfect and use its external Spell Utility. For now, we'll concentrate on the User and Document Word Lists.

Alter User Word Lists and easily replace misspellings and abbreviations.

Expand User Word Lists

WordPerfect includes a default User Word List, but you may adapt it by adding, deleting, or replacing words to suit your needs. If you frequently type your company's name, you could add it to the User Word List so that Spell Checker doesn't constantly flag it.

To add words to the User Word List, go to the Tools menu and choose Spell Checker. When it opens at the bottom of the document window, click the Options button. Choose User Word Lists to open the corresponding dialog box. The active User Word Lists will be displayed in the User Word Lists box. For the United States English versions of WordPerfect 11, the default options include the Document Word List and WT11US. Click WT11US to display its contents in the User Word Lists Contents box below. In the Word/Phrase box, enter the word you want to add. Click Add Entry and then Close.

You may also add words while Spell Checker is running, which might be faster. If the Spell Checker flags a correctly spelled word as wrong or unrecognized, click Add in the Spell Checker to include it with the current User Word List.

Replace Words

Another option is to specify replacements for certain words, such as those often misspelled or abbreviated. For example, a common mistake is typing "adn" instead of "and." The default User Word List already includes this general gaffe, but there may be others you are prone to making. Similarly, if you find yourself frequently typing certain long words, save time by adding an abbreviation for that word and telling WordPerfect to always replace it with the full version.

To replace words this way, open Spell Checker and return to the User Word List dialog box. Enter the abbreviation or misspelling in the Word/Phrase box and the desired replacement in the Replace With box. Click Add Entry and Close.

There may be times where you don't want WordPerfect to automatically replace an abbreviation. For those words, you may decide to add alternative words to the User Word List. You supply the options, and when WordPerfect flags the abbreviation, it will display the alternatives from which to choose. To include alternatives, repeat the steps above for each alternative word.

Document Word List

In addition to User Word Lists, WordPerfect also offers a Document Word List specific to a particular document. With this feature, you can add words to a single document instead of your User Word List. This permits you to include words or phrases that are unique to that document. If you're working on a report about a foreign leader, for example, you can add her name to the Document Word List.

Open the Spell Checker and click the Options button. Choose Word Lists and select Document Word List. In the Word/Phrase box, enter the name, word, or phrase you wish to add and then click Add Entry. Should you need to remove the word for some reason, return to Spell Checker and click Options. Choose User Word Lists again and highlight Document Word List. Double-click the word you wish to remove. When it appears in the Word/Phrase box, click Delete Entry.

Whenever you run Spell Checker, it scans the Document Word List first. If a word or phrase isn't found within the Document Word List, WordPerfect turns to the User Word List and then the Main Word List. ❚❚

BY ANNE STEYER PHELPS

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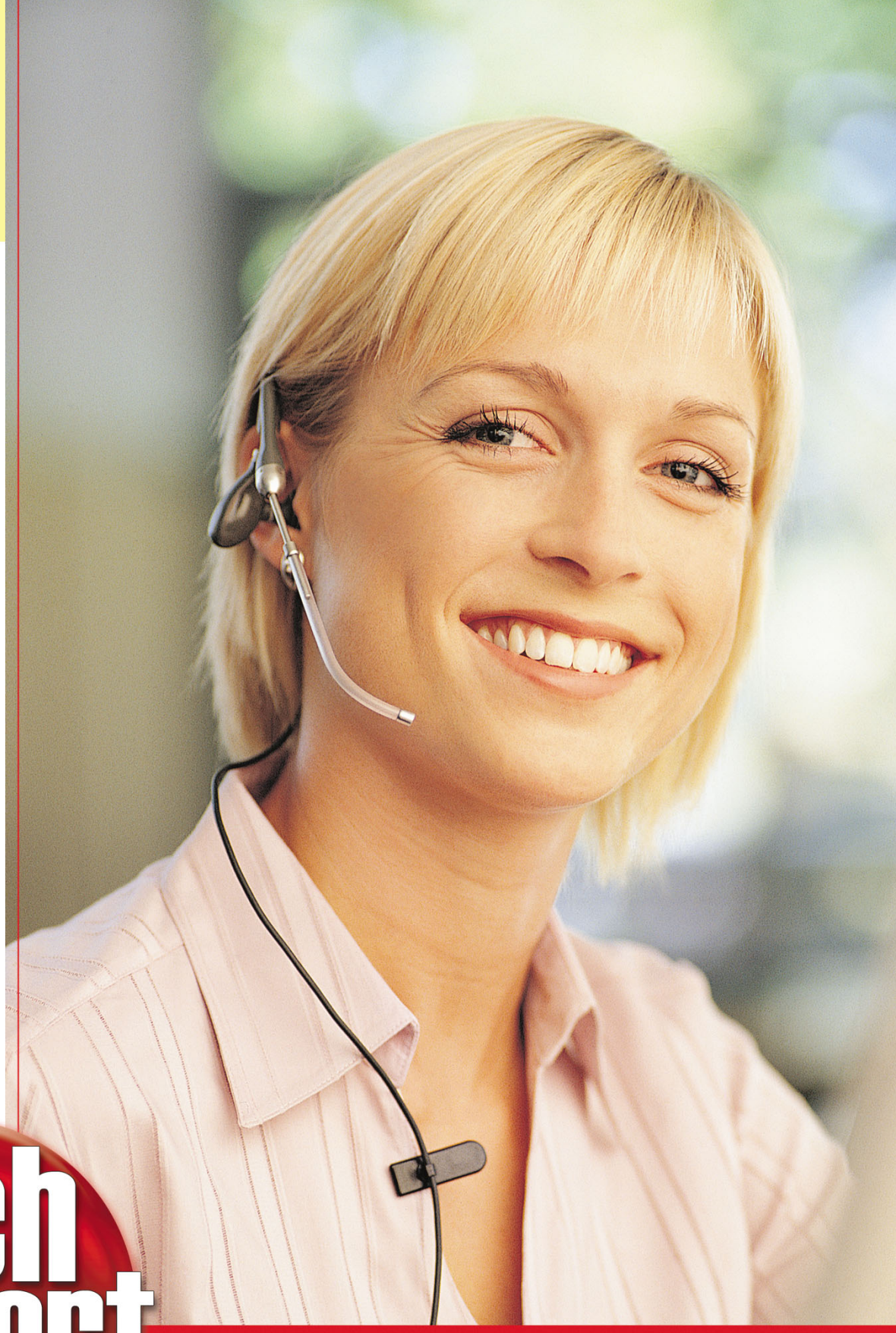

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Quick Tips

Secrets To Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Microsoft Office

Question: The abbreviated menus in Office 2003 can be annoying. How can I expand my toolbar so I see everything on two lines? Is there a way to see all of my menu options immediately?

Answer: These are two common complaints that can easily be remedied. With an Office 2003 application running (such as Word 2003), click Tools and Customize and select the Options tab. To sort your toolbars into two rows (rather than just one row), select the Show Standard And Formatting Toolbars On Two Rows box. Office applications also rely on context-sensitive menus that display your most recent choices in abbreviated menus—introducing a brief delay before displaying the entire menu. Some users like this because it reduces clutter, but many users find this behavior annoying. You can opt for full menus by selecting the Always Show Full Menus box on the same tab.

Printers

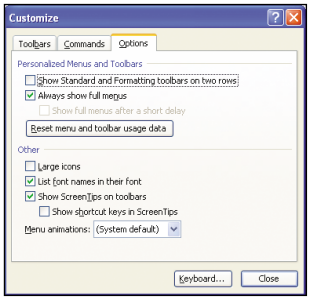
Question: I cleared a paper jam from my multifunction device's paper feed, but now I can't get any papers to feed.

Answer: Chances are that you neglected to securely close one or more housings along your paper path. This is a common oversight that often occurs when users start opening housings and disengaging mechanisms to clear jams or check for other problems. Open the unit again and check all of the mechanisms along your paper feed path. Make sure that each mechanism is secured according to the manufacturer's documentation and try the unit again.

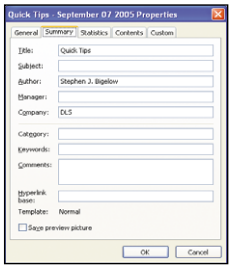
DVD Drives

Question: I attached an external DVD drive to my old laptop, but all the movies skip and stutter. It can read data discs and music, but movies won't play like they do when the drive is connected to my desktop PC.

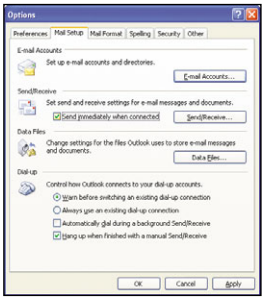
Answer: Double-check the system requirements of the external DVD drive. Make sure that the laptop meets requirements of the drive. If not, you may need to upgrade the laptop (or refrain from using the drive on that system). Close background apps that may be limiting the memory or processor power available to play movies. Check your power-conservation settings, especially if you're using battery power. You may need to reconfigure the power conservation settings to boost processor resources. Finally, check your laptop's USB port. Most current external optical drives rely on USB 2.0 ports because they support data-intensive tasks. If your laptop is only using USB 1.1, it may recognize the drive to read data discs but falter with DVD movies. It may be possible to install a PC Card with one or more USB 2.0 compliant ports. If the laptop is indeed USB 2.0 compatible, try replacing the USB cable with a USB 2.0-compliant cable.



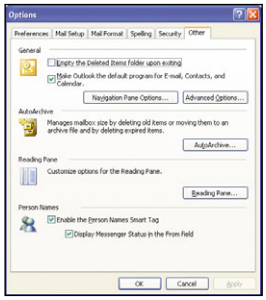
Use simple customization options to sort toolbars into two rows or show all menu options immediately.



Check a document's properties to reveal details about the author and the document itself.



You can prevent Outlook from exchanging mail until you specifically tell it to.



Configure Outlook 2003 to automatically empty the Deleted Items folder.

Microsoft Word

Question: I edit a lot of documents, and it's not always easy to tell who writes each item. Is there a quick way to tell who originates a document?

Answer: The easiest way to see a document's creator is simply to check its properties. Open the document in Word and go to File and Properties. Select the Summary tab to learn about the document's creator, along with managerial and search-related information. Other tabs can reveal statistical information about the file, content summaries, and other details. Remember that much of the information available in these dialog boxes has to be entered by the original document's creator, so some of the details may be quite sparse. Document permissions may also prevent you from editing or altering those details, so if you plan on editing these details, be sure that the document's author does not invoke protections.

Mice

Question: I like my optical mouse, but lately I've noticed that it's been acting a bit skittish and jumpy. I thought that optical mice were supposed to be immune to that kind of behavior.

Answer: Optical mice don't get dirty in the way that mechanical mice do, but even optical mice are sensitive to the accumulation of dust and debris. Use a soft dry towel and gently wipe the optical window and then clean off any other gunk that may have built up on the underside. Now check the mousepad or other mouse surface. Optical mice are very sensitive to surface reflections and textures, so surfaces that have worn smooth or otherwise changed characteristics may result in jumpy mouse behavior—try another mousepad and see if that helps.

Microsoft Outlook

Question: I don't want Outlook 2003 to send and receive mail as soon as I launch it. How can I prevent Outlook from exchanging mail until I tell it to?

Answer: By default, Outlook will try to exchange email as soon as it launches. However, it's easy to prevent this. With Outlook running, click Tools and Options and select the Mail Setup tab. In the Send/Receive area, the Send Immediately When Connected box will probably be selected. Clear the box, click Apply, and click OK to save your changes. The next time you launch Outlook, it should refrain from exchanging email until you manually click the Send/Receive button.

Optical Media

Question: Is it possible to repair a cracked CD or DVD?

Answer: No. Although it may be possible for a CD or DVD drive to see past minor nicks or scratches on the disc surface, outright cracks invariably result in damage to the data-carrying surface located within the disc's plastic. Any files or other data affected by the crack will almost certainly be unreadable (though data located outside of the cracked area may still be readable). For example, if you break a small chunk off a disc (and there is no data on those outer tracks of the disc), the disc will probably be unaffected. If you break off the same small chunk from a disc that does carry data on those outer tracks, those tracks (and any data on them) may be ruined, but data in lower tracks (closer to the spindle) may remain intact. If you crack the disc down the middle, all of the tracks will likely be ruined.

Microsoft Outlook

Question: I usually empty any Deleted Items from Outlook by hand once the folder becomes too large. Is there any way to empty this folder automatically?

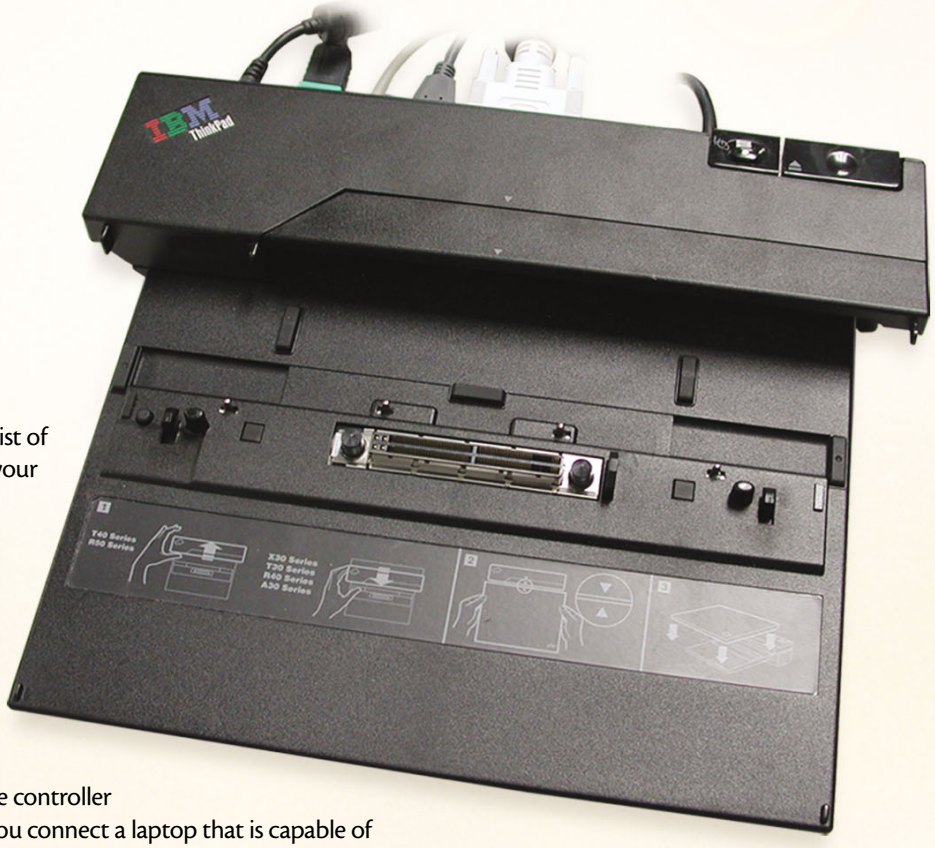
Answer: Yes. With Outlook 2003 running, for example, click Tools and Options, and select the Other tab. Select the Empty The Deleted Items Folder Upon exiting box and click Apply and OK. Once you make that change, any mail messages in your Deleted Items folder will be deleted automatically before Outlook closes.

Compiled by Andrew Leibman
Graphics & Design by Lindsay Anker

Any Port In A Storm

Laptop Docking Stations & Port Replicators

The terms "docking station" and "port replicator" may smack of futuristic Star Trek-like technology, but for laptop users, these accessories can grant desktop-like capabilities to even the thinnest and lightest laptops. These devices are designed to be a permanent fixture of your most frequently used workspaces, such as the home or office (or both). Port replicators and docking stations feature ports that connect to a full-sized monitor and keyboard, as well as a mouse, and most other peripherals you'd use with a desktop computer. Whether you need a port replicator or docking station depends on what your laptop is capable of and the features you want from your laptop when you're tethered to your desk.



Port Replicators

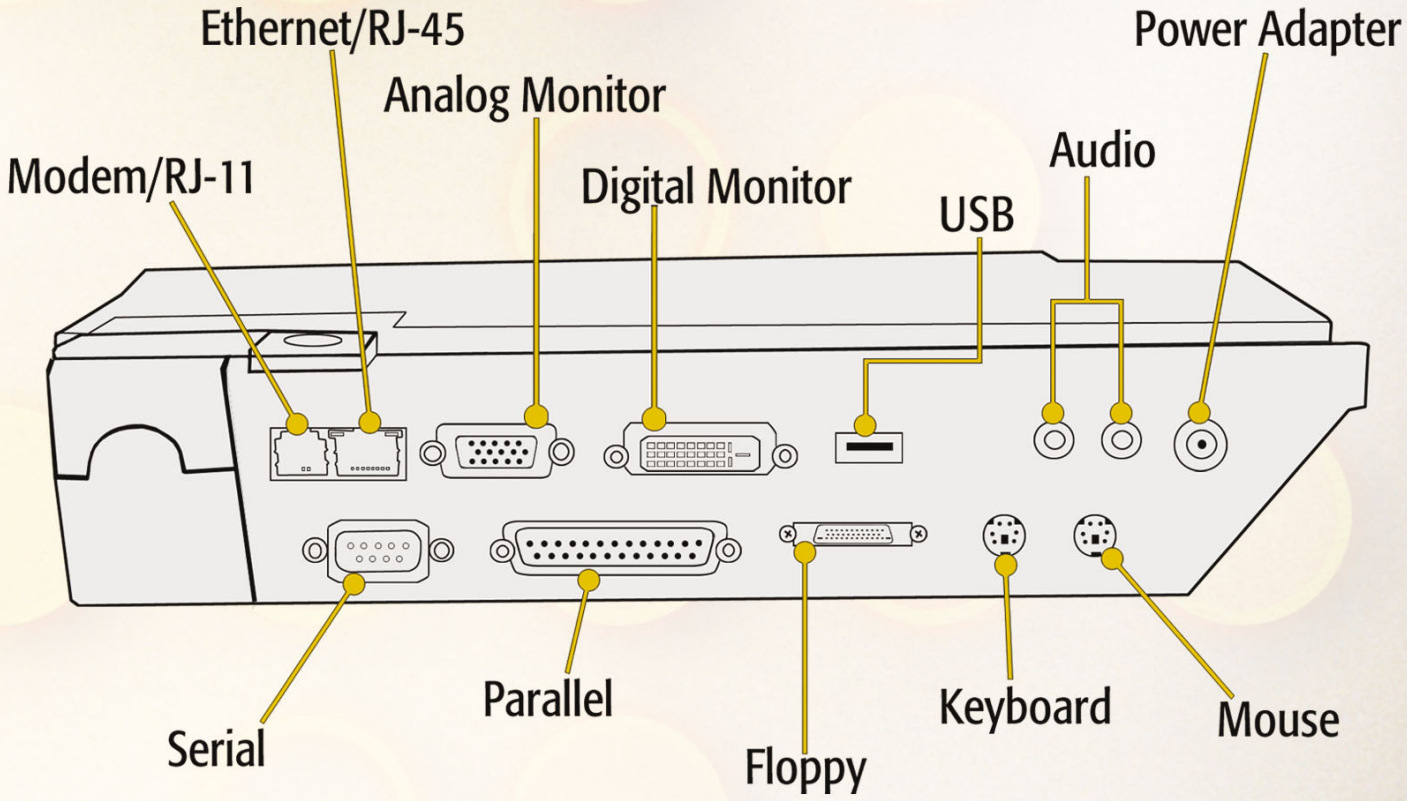
As the name suggests, port replicators consist of little more than duplicates of the ports on your laptop. Although port replicators come in various shapes and provide numerous options, they tend to include PS/2 mouse and keyboard ports; a port for an external display, such as VGA (Video Graphics Array) or DVI (Digital Visual Interface); as well as USB, audio, and networking ports. The ports on a port replicator are commonly referred to as pass-through ports, which means they rely on the laptop's native controller chip for data transmission. For instance, if you connect a laptop that is capable of 1,000Mbps (megabits per second) Ethernet to a port replicator, you'll experience 1,000Mbps networking speeds through the port replicator's RJ-45 jack. If you connect a laptop that is only capable of 100Mbps Ethernet, the same port replicator's RJ-45 jack will only work at this slower speed.

The key to port replicators is that they don't usually add to the functionality of the laptop; rather, they act as a cable-management device. When shopping for port replicators, expect to spend between $50 and $150. If you own or are looking to buy a desktop-replacement laptop that features an optical drive, plenty of hard drive space, PC card slots, and a multitude of ports, a port replicator will likely fit your needs.

Docking Stations

Similar to port replicators, docking stations connect to your laptop with a single connection, which can help save your laptop's ports the stress of repeatedly connecting and disconnecting peripherals. These devices also tend to feature the same pass-through ports found on port replicators. The benefit of a docking station is that it can add features to the laptop, such as speakers, additional bays for optical drives or hard drives, memory card readers, PC Card slots, digital audio ports, USB hubs, and digital display ports.

Typically, users of ultra-portable and thin-and-light laptops that feature a limited number of ports and drive bays can reap the most benefit from docking stations. Because docking stations act as an extension of your laptop, rather than just a device with duplicate ports, they tend to cost significantly more. You can expect to pay anywhere between $150 and $400 for a docking station, depending on the device's features



Which Is Right For You?

First-party laptop manufacturers such as IBM and HP occasionally build proprietary ports into the laptop, which correspond to the plugs on the port replicators and docking stations those manufacturers offer. As a result, some laptop models will only work with specific first-party port replicator and docking station models. If you want to save some money, you can opt for third-party units, which connect to your laptop via nonproprietary ports such as FireWire and USB. Laptop and accessory manufacturers like to tack the terms "docking" and "replicator" onto a variety of devices, which can make shopping for one of these devices a confounding experience. Despite this, if you know the features you need, you'll be better equipped to choose the right device for turning your laptop into a desktop.

What To Do When . . .

Outlook Express Won't Start

Among the most popular applications Microsoft bundles with its Windows OSes is a low-key email client called Outlook Express. The program is easy to use and quite dependable, although technical problems do arise from time to time. One such problem involves a corrupted Messages.ods or Folders.dbx file in Outlook Express 5.0.

The Situation

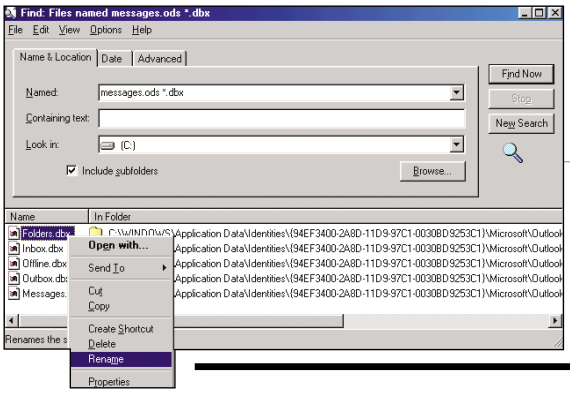
When either of these files becomes damaged or corrupted, as may happen when you attempt to import messages into Outlook Express, the email program will generate one of several error messages—including "MSIMN caused an invalid page fault in module Directdb.dll," "MSIMN caused an exception in module Directdb.dll," or "MSIMN caused an exception c0000006h in module Directdb.dll"—and refuse to start.

The easiest solution is to rename the corrupted file. This tricks Msimn.exe, an executable file otherwise known as Outlook Express, into believing that the damaged file no longer exists. As a result, it will create a new uncorrupted file to replace the missing one. The uncorrupted file is then able to communicate with Directdb.dll, which is a database API (application program interface), without generating an error message or preventing Outlook Express from starting.

To rename the file, use the computer's find or search utility to locate the damaged file on your PC. Start by searching the Windows drive (the drive on which Windows is installed) for the Folders.dbx file. If you find the file, right-click it in the results pane and select Rename from the pop-up menu. Type folders.old and press ENTER. Close the search utility and open Outlook Express.

If you receive the error message again, however, you have to take a different approach. The first involves renaming the Messages.ods file. Simply reopen the search utility and search for Messages.ods, which, like Folders.dbx, contains email messages. When you find it, right-click the file and select Rename from the pop-up menu. Type **messages.old** and press the ENTER key.

This approach will resolve the issue, but it also obliterates any email messages contained inside the file. If you cannot bear to lose those messages, you must resort to the second approach, which entails moving the Messages.ods file into the folder that contains the various DBX files associated with Outlook Express and then reconfiguring the Registry so that the email client will retain the messages contained in the ODS file.



Renaming the Folders.dbx file is the easiest solution to this pesky problem. Simply locate the file on your system, right-click it, and select Rename from the pop-up menu.

Open the search utility and type **messages.ods *.dbx**. Identify the folder containing the .DBX files. It probably has an unwieldy name, such as C:\WINDOWS\APPLICATION DATA\IDENTITIES\{94EF3400-2A8D-11D9-97C1-0030BD9253C1}\MICROSOFT\Outlook Express. Locate the Messages.ods file in the results, right-click it, and select Copy. Close the search utility, open My Computer, and locate the folder containing the DBX files. Right-click the folder and select Paste from the pop-up menu.

After moving the Messages.ods file, open the Start menu, select Run, type **regedit** in the Open field of the resulting dialog box, and click OK. The Registry Editor will appear on-screen. Open the HKEY_CURRENT_USER\IDENTITIES\{<FOLDER IDENTITY>}\SOFTWARE\MICROSOFT\OUTLOOK EXPRESS\5.0 key (where <FOLDER IDENTITY> refers to the alphanumeric ID that is part of the folder path identified by the search utility, e.g. {94EF3400-2A8D-11D9-97C1-0030BD9253C1} in the above example) and locate the Converted ToDBX value. Right-click this value, select Delete, and click Yes. Close the Registry Editor and reboot the PC. (Before you make any changes to the Registry, back up your system.)

Update To 6.0

Because this error message is associated with Outlook Express 5.0, the final step toward a resolution is to update your PC to a more recent version. Visit Windows Update at windowsupdate.microsoft.com and scan for the latest updates. Select the one labeled Internet Explorer 6 (Outlook Express is bundled with the browser) and follow the on-screen instructions to download and install it. Click OK to reboot the PC when the update is complete. ❚❚

BY JEFF DODD

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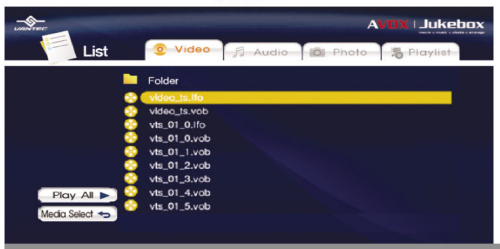
Video



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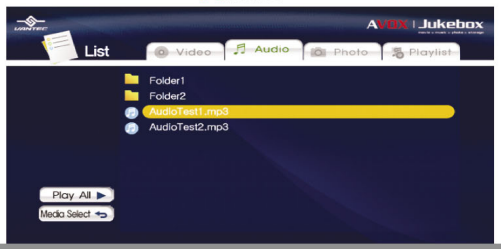
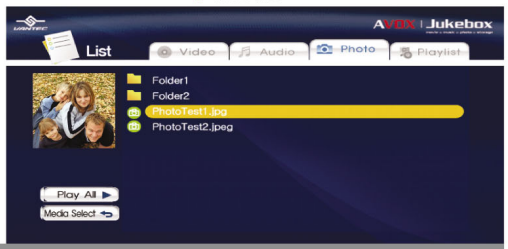


Photo



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Examining Errors

BY JEFF DODD

Problem: After moving data files to his new PC, a reader reports that he receives an error message when he tries to address new messages to email addresses listed in Outlook 2003's Contacts folder.

Error Message: "The address list could not be displayed. The Contacts folder associated with this address list could not be opened. It may have been moved or deleted, or you do not have permissions. For information on how to remove this folder from the Outlook Address Book, see Microsoft Outlook Help."

Solution: The problem lies with the address book file, which was most likely corrupted during the data transfer. The reader will have to delete the old file and reinstall a new one.

Before proceeding, we recommend backing up the Outlook data file. This is a hidden file, so the reader will have to reset the Folder Options to view it. He'll find the Folder Options dialog box by accessing My Computer, opening the Tools menu, selecting Folder Options, choosing the View tab, selecting Show Hidden Files And Folders, and clicking OK. He then should back up the Outlook.pst file at DOCUMENTS AND SETTINGS\<*USER NAME*>\LOCAL SETTINGS\APPLICATION DATA\MICROSOFT\OUTLOOK.

Now the reader can resolve the issue. He should start by launching Outlook, opening the Tools menu, and clicking the E-mail Accounts option. When the dialog box appears on-screen, the reader should select the View Or Change Existing Directories Or Address Books option under the Directory heading and click Next. A list of installed address books will display. He should select the Outlook Address Book option, which is likely the only installed address book at the present time, and click the Remove button. He then should click Yes to verify his actions.

Next, the reader can install a clean version of the address book. With the E-mail Accounts dialog box still open, the reader should click the Add button, select the Additional Address Books option, and click Next. On the following dialog box, he should highlight the Outlook Address Book option in the Additional Address Book Types list and click Next to proceed. After clicking OK to verify that he will restart Outlook and clicking Finish to close the E-mail Accounts dialog box, the reader should close Outlook and restart it.

When the Outlook window appears on-screen again, the reader should open the Contacts navigation pane, right-click the Contacts folder (located under the My Contacts heading), and click Properties from the pop-up menu. On the Outlook Address Book tab of the resulting Contacts Properties dialog box, he should select the checkbox next to Show This Folder As An E-mail Address Book and click OK. To finish this fix, the reader needs to reboot his PC. When the user opens Outlook again, the new address book file should contain all of the reader's existing contacts.

Problem: A reader reports an error message each time he boots his PC. The message prevents him from accessing his OS (operating system), which is Windows Me.

Error Message: "Reboot and select proper boot device or insert boot media in selected boot device."

Solution: This error message may reveal a significant problem with the system, but before trying an extreme solution, such as reformatting the hard drive or replacing the motherboard, the reader should try a few practical remedies first. Assuming that his hardware is installed correctly, he should start the troubleshooting process by ensuring that the boot sequence is configured correctly in the **BIOS** (**Basic Input/Output System**; instructions that govern the startup routine). To do so, he must access the BIOS setup utility before the PC tries to load Windows. The users manual will identify a hotkey—usually F1, F2, or ESC—that provides access to the BIOS. As soon as the reader turns the PC on, he should start pressing this hotkey repeatedly. If he's successful, the BIOS setup utility will appear on-screen.

The reader should peruse the contents of this utility for any reference to "boot sequence" or "boot order." This setting dictates where and in what order the BIOS looks for the files that will load the OS. The reader should configure the boot sequence so that the BIOS looks at the floppy diskette drive first (if one is available) and then looks at the hard drive. He should save the new settings and exit the BIOS. Hopefully, that will resolve the issue.

If that doesn't fix the problem, he should contact the PC manufacturer to obtain a BIOS update. The old BIOS may be corrupted or in conflict with a newer system component. The PC manufacturer will provide detailed instructions for installing the new BIOS. The reader should follow these instructions to the letter. When the installation is complete, he can reboot his system.

If the error message persists, the reader may need to take drastic action. He should try checking (and perhaps replacing) the hard drive cables first. If that doesn't solve the problem, he may need to reformat the hard drive and reinstall Windows. He also may need to consider replacing the hard drive or even the motherboard. ❙

Problem: A reader complains that he occasionally receives an error message while booting his PC, but he can close the error message and resume booting without encountering any other problems.

Error Message: "Generic Host Process for Win32 Services encountered a problem and needs to close."

Solution: This common error message may occur for a variety of reasons. It often appears as a result of a virus infection, but we don't suspect a virus in this instance because the error message would probably display every time he starts his PC. Therefore, we think the error is more likely due to the reader's antivirus utility. We recommend that he uninstall Symantec's Norton AntiVirus (if installed) and reboot his PC. Doing so may eliminate the error; if it does, the reader should invest in another recommended antivirus utility rather than reinstall the Symantec product, which apparently conflicts with some aspect(s) of his system configuration. He then should run the antivirus software on a regular basis.

Another likely culprit is a software conflict, so we suggest that the reader obtain all available Windows updates by visiting the Windows Update site (windowsupdate.microsoft.com). He can further minimize the likelihood of a conflict by decreasing the number of programs that launch during the boot routine. To do so, he should access the System Configuration Utility by opening the Start menu, clicking Run, typing **msconfig** in the Open field, and clicking OK. On the Startup tab, he should review the programs that load during the boot routine, deselect all unnecessary entries, click OK, and then reboot.

If this fixes the problem, he needs to make the changes permanent by opening the Start menu, clicking Run, typing **regedit** in the Open field, and clicking OK to launch the Registry Editor. (*NOTE: Before modifying the Registry, however, he should make a backup because one mistake could leave his system inoperable.*) He should open the HKEY_LOCAL_MACHINE\SOFTWARE\MICROSOFT\WINDOWS\CURRENTVERSION\RUN key, locate the values that correspond to the recently deselected programs, right-click each one, click Delete, and click Yes to verify his actions.

Finally, it's possible the error resulted from a conflict with the reader's printer or scanner. He can rectify this issue by shutting down the computer, disconnecting the printer or scanner, restarting the computer, and reinstalling the printer or scanner. ❙

Have questions about an error message you've seen? Send us your message (errormessages@smartcomputing.com), and we'll try to decipher it. Tell us what version of Windows you're using, give the full text of the error message, and provide as many details in your explanation as possible. Volume prohibits individual replies.

Fast Fixes

Streets & Trips 2006 Construction Update

Problem: Your copy of Streets & Trips 2002 includes outdated maps that don't show current construction areas or newly opened highways.

Solution: Download this 144KB update, which will help you install current highway information. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **Streets and Trips 2006 Construction Update** in the Keywords text box and click Go. Click the link named Streets And Trips 2006 Construction Update, and on the next page, click Download. In the File Download dialog box, click Save, and browse through your folders to save the file in the Data folder at C:\PROGRAM FILES\MICROSOFT STREETS & TRIPS\DATA. After the file transfer is complete, restart the program.

www.microsoft.com/downloads

CyberLink PowerDVD 6 Update

Problem: While using CyberLink PowerDVD 6, you have problems applying advanced audio settings within the configuration settings, audio signals drop, or the program stops responding when you select eight speakers while using ProLogic IIx effects. Also, when using video files, you may have difficulties applying pan, scan, and digital zoom functions while playing DivX files, or you may not be able to display multilanguage subtitles in Windows 98 or Windows Me. You might see other audio, video, or playback errors, too.

Solution: Download and install this 29.4MB patch to fix numerous problems in PowerDVD 6. To download the update, type the URL we listed below in the Address field of your browser window. After CyberLink's Web page loads, click Downloads. In the Home Entertainment section, next to CyberLink PowerDVD, click the Patches icon. Look for the area named Free Patch Files And Updates For CyberLink PowerDVD 6.0 and locate an update with the date of 9-12-2005. In the Download column, click the link named Click Here, and on the next page, click Download. After the transfer is complete, double-click the file (PowerDVD6_Patch_2003e.exe) to begin the installation process. (We don't recommend that users with dial-up Internet access download this file due to its large size. Instead, they should contact CyberLink to see if the update is available on CD.)

www.gocyberlink.com

Update For PhotoStory On CD & DVD 2005

Problem: Your copy of MAGIX's PhotoStory stops responding or closes suddenly while you're using the program.

Solution: Download and install this 3MB file to update the application and prevent these problems from recurring. To download the update, type the URL we listed below in the Address field of your browser window. Point to English and click the appropriate country to load the English version of the site. Click Support, and on the left side of your screen, click Patch Download. If the Support page doesn't automatically appear, click the link named Open Support Site. In order to browse through the updates listed on this site, you must be a registered user. If necessary, complete the brief registration process, and then, from the Please Select A Product Or Group For The Help Needed drop-down menu, click PhotoStory On CD & DVD 2005. Under Downloads to PhotoStory on CD & DVD 2005, click the Here link and then click the link named PhotoStory On CD & DVD 2005. Read the instructions for installing the update, scroll to the bottom of the page, and click Start Download. After the transfer is complete, double-click the file (Photostory_on_cd___dvd_2005_3.5.5.0_us.exe) and follow the on-screen prompts to complete the installation.

www.magix.com

Fix Of The Month

Cumulative Update For Windows 2000

Problem: Microsoft released this update for users who still need to install more than one update for their Win2000 PCs. This file includes recommended, critical, and security updates for Win2000.

Solution: Download and install this 31MB update to quickly update your machine. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB891861** in the Keywords text box and click Go. Click the link named Update Rollup 1 For Windows 2000 SP4 (KB891861), and on the next page, click Download. (Please note that Microsoft estimates that this large of an update could take more than an hour to download if you're using a dial-up Internet connection. Instead, you may want to contact Microsoft to see if the cumulative update is available on CD.) When the file transfer is complete, double-click the file (Windows2000-KB891861-v2-x86-ENU.exe) and follow the on-screen prompts to complete the installation.

www.microsoft.com/downloads

Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!

Get straight answers to your technical questions from *Smart Computing*. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: *Smart Computing* Q&A, P.O. Box 85380, Lincoln, NE 68501, or email us at q&a@smartcomputing.com. Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)

Windows

Q In your September 2005 issue, you answered a question about running ScanDisk in Safe Mode to avoid a restart message. I have a similar problem except that I can't get my computer to start in Safe Mode. I have a Dell L667 computer with Windows 98 Second Edition. I've tried pressing both CTRL and F8 (which Windows Help recommends), but neither of these keys helps me get into Safe Mode. I have deliberately caused an illegal shut down, but when the computer restarts and runs ScanDisk to check for errors, it just proceeds with its bootup normally and doesn't enter Safe Mode. Any suggestions?

A An alternative way to start your computer in Safe Mode is via the System Configuration Utility. To access it, click Run from the Start menu, type **msconfig** in the Open field, and click OK. On the General tab, click the Advanced button. Then, select the checkbox next to Enable Startup Menu and click OK. Click OK again in the System Configuration Utility dialog box, and click Yes when prompted to restart your computer.

Now when your computer restarts, the Windows 98 Startup Menu will appear. Select Safe Mode and press ENTER. This action will restart your PC in Safe Mode, but don't be surprised if it takes a few minutes to restart. Once in Safe Mode, you can perform any necessary maintenance. You can leave the System Configuration Utility configured to prompt you every time you restart your computer, or you can reverse the steps we outlined here to have your computer start normally.

This Old Computer

Q I have an IBM 350 computer (with a Pentium 233 processor) that has a limitation of not being able to use a hard drive larger than 8GB. There wasn't a BIOS (Basic Input/Output System) flash upgrade that I could find, either. I followed a friend's recommendation and got an ATA 133 PCI (Peripheral Component Interconnect) card to control a larger drive, and it worked . . . well, sort of. I was able to format a hard drive, but I couldn't find a way to get the OS to recognize the CD-ROM drive while the ATA card was connected so I could perform DOS commands or load programs. I tried using different COM (communications) ports, configuring various combinations of master/slave settings, and even disabling the onboard BIOS. I can see that the BIOS can recognize the CD-ROM drive, but that's about as far as it goes. Actually, the only way I've been able to get it to work is to partition and format the drive with the ATA card connected to the hard drive and then move the hard drive on to the circuit board IDE (Integrated Drive Electronics) connectors with the CD-ROM drive. Maybe there are other problems with the PC itself, but even while running Win98, the machine seems unusually prone to crashes.

A Whenever there are stability issues after installing new hardware, our first suspicion is almost always a driver or an incompatibility between the old hardware and the new hardware. You didn't mention the make or model of the PCI card you purchased, but our hunch is that the PCI card is incompatible with your system. It might be useful to contact the card's manufacturer and see if it supports this card on Win98 PCs, as well as with your existing components.

With an older PC such as yours, we have a hard time recommending upgrades. A Pentium 233 computer is about 10 years old, and for a PC, that's a long life span. Although it can be fun to tinker with older gear, most upgrades for computers this old aren't cost-effective. For the price of a new hard drive and PCI controller card, you can purchase a brand new computer that will have support for all of the latest technologies that have been developed in the last decade.

Online

Q Can you please tell me where I can conduct searches for IP (Internet Protocol) addresses? My router's firewall log has a list of IP addresses that it blocked, and the list was full of the same IP addresses. I'd like to know who these IP addresses belong to.

A Finding out who IP addresses belong to can be an illuminating exercise into the inner workings of the Internet; it also can be an exercise in frustration. The problem isn't necessarily finding out who owns the addresses but getting the owners to respond.

The first step in tracking down the owners of the IP addresses is visiting the American Registry for Internet Numbers (www.arin.net). ARIN can tell you to whom the IP addresses were "delegated," which usually lead to ISPs (Internet service providers) who assigned IP addresses to customers. Simply type an IP address into the Search WHOIS field and click Search WHOIS. If the IP address is one that ARIN delegated, the site will return the name of the "owner" along with the IP address range that ARIN delegated. Click this range to find out more details about the "owner," including contact information.

If a particular IP address isn't one that ARIN delegated, you may be directed to one of several other sites that manage IP addresses for Asia, Latin America, Europe, and so on. The Internet is a global entity, so the IP address you're looking for could be from anywhere in the world. If you're redirected to one of the other sites, follow the same type of procedure we outlined to retrieve information about the owner of the IP address.

After you find out the owners assigned to various IP addresses, contact them. Typically, you'll have a phone number and an email address you can use to contact each owner. Our recommendation is to send an email detailing what you've discovered in your firewall logs and then attach the logs to the email so the recipient can examine them.

Depending on the type of activity shown in the logs, you may not receive a reply to your email. Many companies will send a form email in reply to your message. If you send one of these messages to a large ISP with thousands of customers, the ISP may just decide to stop its service to a specific customer if that customer seems to be violating the ISP's TOS (terms of service) rules. Or, an ISP may just ignore you. If you don't receive a reply, keep contacting the ISP. Many ISPs create an email address for abuse or security problems (such as abuse@someISP.com or security@someISP.com) so they can handle situations like yours. Eventually you'll reach someone who can explain what steps an ISP is taking to help you resolve your situation.

Windows

Q When running Windows XP Home, the computer frequently freezes and requires a complete reboot. After the reboot, I access Computer Management/Security/Properties, which describes the type of failure as "Failure Aud, Event ID 614" and states the user is "NT AUTHORITY\NETWORK SERVICE," but this is a standalone computer and no network is involved. I regularly update this computer via the Microsoft site, including the installation of its security updates. I also keep my other primary programs current.

In following the Microsoft link located in the "Failure Audit Properties" window, no instructions are given other than to visit its section of Knowledge Base articles. I have wandered through these articles but am unable to find something directly relating to my problem as described by Computer Management/Security/Properties. Any thoughts?

A Like you, we spent hours browsing Microsoft's main Knowledge Base, as well as its TechNet resource files. Then we started hunting around using other resources, as well. Despite the part of the failure report you saw suggesting that the user is "NT Authority\Network Service," the component being reported is part of WinXP (in both Home and Professional versions), as well as Windows 2000 and its server families and various flavors of Windows NT. Both WinXP and Win2000 are built upon WinNT code, so that explains why "NT" is part of the message.

The "Event ID 614" portion of the failure report reveals that something called the IPSec (Internet Protocol Security) Policy Agent has been disabled, but it's unlikely the result of anything you've done because IPSec policies cannot be managed from a system running WinXP Home. (This is one of the components in WinXP

Pro that Microsoft disabled in WinXP Home.) However, according to other sources we found during our search, this could mean that the IPSec Policy Agent experienced a serious failure as the result of an outside attempt to enter your system. Even though you say that your computer isn't on a network, it actually is part of a very large network whenever you're connected to the Internet.

So, if you haven't already installed and activated a firewall, we strongly recommend that you do so. There are several third-party firewalls available, as well as Microsoft's Internet Connection Firewall (which is already installed). If you want to make sure the Internet Connection Firewall is active, click My Network Places on your Desktop or from the Start menu and select View Network Connections from the left pane. When the Network Connections window opens, select your Internet connection on the right and then click Change The Settings Of This Connection on the left. When the connection's Properties dialog box opens, choose the Advanced tab, select the Internet Connection Firewall checkbox, and click OK.

In addition, if you aren't already using an antivirus product, you'd better install one and make sure you keep it updated. After all, the computer problems you've described could mean that someone planted a backdoor program on your system so that she could take control of your PC. Some highly recommended antivirus products include Grisoft's AVG Anti-Virus Free Edition (free; www.grisoft.com), Symantec's Norton AntiVirus ($39.99; www.symantec.com), and McAfee's VirusScan ($39.99; www.mcafee.com). Plus, you'll need to download and use an antispyware product such as Spybot Search & Destroy (free; www.safer-networking.org) and Ad-Aware SE Personal (free; www.lavasoft.com). You also may want to try Microsoft's Windows AntiSpyware (free beta; www.microsoft.com/athome/security/spyware/software).

Software

Q I have a question that my computer-expert friends can't answer. How do I get rid of the following phrase that seems to appear between paragraphs in some of my email messages to others when I copy from a Microsoft Word document and paste the text in my messages:

<!- -[if !supportEmptyParas]- ->

I don't see these characters before sending email, however, an extra space gets inserted automatically between paragraphs even though I don't want it to. Also, why do only some recipients get these characters in their messages from me? My Thunderbird email program is set to send my emails in both HTML (Hypertext Markup Language) and plain text.

A When transferring formatted documents from a Word document to an HTML page, Word formats the document in XML (Extensible Markup Language), which is an extended version of HTML. You can avoid this problem by saving the Word document as an RTF (Rich Text Format) file and then copying and pasting the text into the body of your email message. Now when you send the message as both text and HTML, the formatting, font, and other embellishments, such as bullets and pictures, will appear without the extraneous XML tags.

Another alternative is to attach your document to the email as a file, such as Yournote.doc, instead of using the cut-and-paste approach, but doing so carries the risk that the file attachment will be rejected by your recipients' software or their ISPs' software because of the chance that the attachment may contain a virus or be too large of a file. Also, perhaps your recipients aren't using a Word-friendly application, so they can't open and view the file attachment. But if you decide to choose this alternative, saving the file in the RTF format, such as Yournote.rtf, is a better option because RTF documents cannot carry viruses and can be read by all modern word processing programs (those published within the past 15 years or so). Plus, RTF documents also are smaller in file size than formatted Word documents.

Regarding your other question: Why do only some recipients get these characters in their messages from me? We suggest that you ask the recipients who *do* receive these strange characters in their email messages from you to find out which email program they're using and which version they have. Older email applications published before the widespread use of XML can't read the XML tags embedded in the HTML code, so these tags are rendered as visible text instead of as invisible formatting instructions.

By the way, Thunderbird doesn't automatically decide whether to send the document in HTML, plain text, or a combination of the

two; that's a choice you make initially for each recipient. Thunderbird keeps a list of people to whom you've sent previous email messages along with the plain text or HTML choice you made previously. To override your set choice for each recipient, open the Options menu (visible from the Compose window that displays when you send a new message or reply to one), choose Format, and then select one of the four options: Auto-Detect, Plain Text Only, Rich Text (HTML) Only, or Plain And Rich (HTML) Text.

Online

Q When I click a link in my email messages (via my Outlook client) I get an error message: "This operation has been cancelled due to restrictions in effect on this computer. Please contact your system administrator."

I guess that I must have done something wrong somewhere, but I don't remember what.

A This error is usually caused by the process of upgrading from an older version of Internet Explorer to IE6. To resolve it, launch IE, open the Tools menu, click Internet Options, choose the Programs tab, click Reset Web Settings, and then click Yes. Click OK when prompted to do so. Next, open the Internet Options dialog box again, make sure that Outlook is specified in the E-mail drop-down menu on the Programs tab, and make sure that there's a check mark next to Internet Explorer Should Check To See Whether It Is The Default Browser. Click Apply and then click OK. This solution should resolve your PC's error.

Hardware

Q I have two questions regarding my new Gateway computer, which is a model 7310S, has a Pentium 4 processor, and runs WinXP Home Edition. I placed an order online for a CD/DVD burner player plus a CD/DVD player, and I received a single multiformat CD/DVD burner player labeled as: 16 Double Layer Multi Format DVD/CD Recorder *and* DVD Rom Drive.

Should there be two trays (as I requested) or just one tray? The player's label is confusing to me. Also, when I burn a DVD and try to play it on my new Zenith XBR413 DVD player, I receive the following error message: "Unknown Disc. Check Disc."

The disc plays OK on my computer, though. Is there a solution to this problem?

A Although the description you sent would imply that you should receive two physical drives, it's our opinion that you received the correct device. Most of the DVD and CD-ROM drives that ship today perform multiple functions. Not only can they burn discs (the "Recorder" portion of the label on your drive), but they also can play back discs. Many drives also have backward-compatibility to play older formats. Thus, a DVD recorder can play (as well as record) a disc.

The problem lies in both aggressive marketing and the rate of change in technology. Advertisers tout every possible feature in an attempt to differentiate their hardware from their competition's hardware. We weren't sure whether you ordered your drive from Gateway or from a different online vendor. If it was from Gateway, we would recommend giving the company a call just to make sure that you weren't supposed to receive a second (nonrecording) drive. Some computer makers do ship dual drives occasionally, but if you ordered the drive from a third-party vendor, odds are good that you received the correct drive.

Your second question indicates that you've stumbled onto a problem that persists with many DVDs created on home computers: Not all standalone DVD players can successfully read DVDs burned on home computers. As you've experienced, the DVDs play on your computer but not on your Zenith DVD player. According to Zenith's site, the XBR413 should be able to read DVDs in the following formats: DVD+R, DVD-R, DVD+RW, and DVD-RW. Make sure that you're using the appropriate format. You also might try using a different brand of blank DVDs for burning discs. It's unfortunate that there are so many formats available, which ends up causing consumers to deal with the type of incompatibilities you've experienced, but until a unified DVD-recording standard is established, it doesn't seem like this is something that's going to be resolved any time soon.

Frequently Asked Questions

Answers to users' most common questions about
Digital Cameras

FAQ How do I know what print size I can get from a particular image? Which resolutions are recommended for various sizes of prints?

Your maximum print size will equal the image's resolution, divided by the color printer's resolution. For example, if you take a photo with a 1,152 x 864 resolution (common for older 1MP [megapixel] cameras) and need to print that photo using a 200dpi (dots per inch) color printer, the largest print size should be about 5.8 inches (which is 1,152 divided by 200) x 4.3 inches (864 divided by 200).

In order to make larger prints, you need images in higher resolutions, which is precisely why 5MP, 6MP, and even 8MP cameras are appealing. Higher resolution imaging allows for many more pixels per image. Thus, a 4MP camera can typically take snapshots at a resolution of 2,240 x 1,680, resulting in an 11.2- x 8.4-inch print (roughly equivalent to an 8.5- x 11-inch print) using a printer capable of 200dpi. A 6.17MP camera can generally take snapshots at resolutions of 3,024 x 2,016, allowing for 15- x 10-inch prints at 200dpi.

Keep in mind that your particular camera can probably take pictures in numerous resolutions; just use the simple division formula we explained to figure out the print sizes.

FAQ Why do high-resolution cameras seem to only have room for a few photos? Is there some way to calculate the number of pictures a camera can store?

Unfortunately, raw memory needs don't account for the effects of image compression (as is the case with JPEG [Joint Photographic Experts Group]), which can dramatically reduce image memory requirements. For example, the Kodak EasyShare Z740 can fit 17 high-resolution (2,576 x 1,932) images in its 32MB of built-in memory; it also can fit 27 images at resolutions of 2,048 x 1,536 in the same 32MB. Even lower resolutions can allow for numerous snapshots. Another example, the Kodak EasyShare CX7530, can store 46 images at resolutions of 1,496 x 1,122 in 32MB of memory. Camera manufacturers post this data on their Web sites and often include it on cameras' packaging.

You can always add storage to your camera with a larger memory card (at additional cost, of course). The problem is that some "value-priced" high-resolution cameras will skimp on onboard memory, compelling you to buy large memory cards right away. Although it usually isn't essential that you buy larger memory cards initially, it's often more convenient to upgrade the camera's memory than to transfer the camera's photos to a laptop or desktop PC every time you take a few snapshots.

FAQ I have an older digital camera that works fine, but I no longer use a PC with a serial port to transfer the camera's images. Is there any other way to transfer the camera's images to my new PC?

One easy solution is to use a memory card reader. One such example is the SanDisk ImageMate 12-in-1 Reader/Writer ($34.99; www.sandisk.com/retail/im-12in1.asp). The unit accepts 12 different types of memory cards (which covers virtually every digital camera memory type) and connects to your existing PC through a USB 2.0 port.

To use a memory card reader with your older digital camera, just turn the camera off, remove the memory card, and then insert the card into the card reader. Once the reader recognizes the card, just pressing a particular button will transfer the memory card's contents to your attached PC for viewing, editing, printing, and archiving (such as to a CD or DVD).

FAQ How can I extend my digital camera's battery life and save money?

Avoid the three main power drains in a digital camera: power cycling, unnecessary flash, and excessive LCD (liquid-crystal display) use. A camera uses power each time it initializes or shuts down, so avoid cycling the camera on and off between shots; you should only turn the camera off when you finish taking pictures. Also, because it takes energy to use a flash, turn this component off in daylight or high-light areas. Even if your camera doesn't fire the flash, it takes energy to keep the flash charged.

In addition, the color LCDs used on digital cameras can demand a lot of power (especially if the camera is left on for a prolonged period), so turn off the LCD and use the optical viewfinder rather than the LCD to frame the snapshot. Plus, make sure you only use the LCD sparingly to review your snapshots.

If you haven't purchased a camera yet, choose one that uses common (low-cost) alkaline batteries rather than the more expensive lithium cells. Most cameras that operate on AA or AAA batteries also will accept rechargeable batteries, which may cost more initially but can easily pay for themselves in the long run. Of course, always refer to a camera's manual for specific operating suggestions and precautions.

Trouble Backing Up In Paradise & Ring Tone Download Doldrums

ACTION EDITOR

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you're having with customer service. In billing disputes, include relevant information (such as account numbers or screen names for online services) and photocopies of checks. Include your phone number in case we need to contact you.

Letters may be edited for length and clarity; volume prohibits individual replies.

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I've been using Quicken for years and love it, but I recently had to upgrade my Windows 98 system from Quicken 95 to Quicken 2005. After the upgrade, I noticed a problem backing up my accounts to multiple floppy diskettes.

It took me several calls to Intuit's help desk before I learned about a quirk in the 2005 version. Unlike previous versions, Quicken 2005 will not automatically overwrite data on a diskette. Instead, I have to reformat all my diskettes before backing up my accounts. I realize this is an easy work around, but it's time-consuming and some users may not understand how to format a diskette.

I have asked Intuit if it plans to correct the problem in the 2005 version or fix it in the 2006 version, but the company hasn't replied.

Jim Peters
Kihei, Hawaii

We contacted Intuit's public relations department on Jim's behalf, and a representative agreed to investigate the problem. Intuit says this is a confirmed bug that occurs when backing up data to multiple diskettes on PCs running either Win98 or Windows Me. Intuit also says data corruption can cause similar problems on other OSes (operating systems).

Intuit confirmed that the same bug still existed in the early versions of Quicken 2006, but it promised to fix the bug either in time for the official release or shortly afterward. Plus, the company promised to give Jim a free upgrade. To cover him in the meantime, Intuit shipped Jim a USB flash drive so that he could back up all of his accounts without having to span multiple diskettes.

After reading about Xingtone in the September issue of Smart Computing, *I decided to give the product a try by downloading the free sample version. I was able to create a ring tone but unable to send the ring tone to my T-Mobile phone. While trying to download the ring tone to my phone, I'd receive either a "Server Error" message or a "Bad Gateway" message.*

I tried emailing Xingtone and received a form letter asking me to check the software's settings. Although I made no changes to the settings, I was eventually able to download the ring tone. Thinking that some server error was now fixed, I decided to pay the $19.95 to register the software.

Later, I was able to download four more tones to my phone before I started receiving the same error messages, and I have been unable to download any ring tones since then.

I've been in contact with T-Mobile, but it says the problem is with Xingtone's servers. The only response I get from Xingtone is the same form letter I received previously, and there's no phone number for support.

Melvin Farris
Davenport, Fla.

We contacted a public relations representative for Xingtone who promised to look into this situation. She then informed Xingtone's technical staff of the problem, and it managed to correct the server problems a short time later.

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If you still can't find an answer to your question or problem after using our Tech Support Center, call us up and we'll help you through the problem.

Visit our Tech Support Center.

Tech Support CENTER

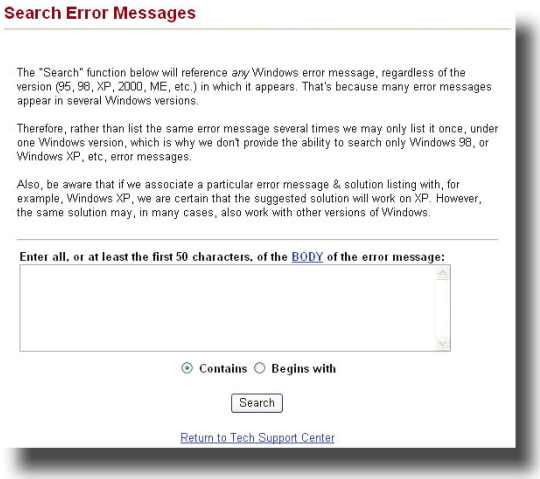
Error Messages

Don't understand an error message that keeps popping up on your computer? Search SmartComputing.com's Error Messages section to find answers to difficult computer errors. With this feature, you'll find answers to hardware and software problems and much, much more. Browse Basic Troubleshooting Articles to find information and solutions to popular computer issues. Search the error messages alphabetically or by text and find simple translations and easy solutions to your computer troubles.

1 Go to www.smartcomputing.com and click on Tech Support Center.

2 Scroll down to Error Messages. For best results, search error messages alphabetically first.

3 To search articles by text, click the link, enter your error message in the box, and click Search.

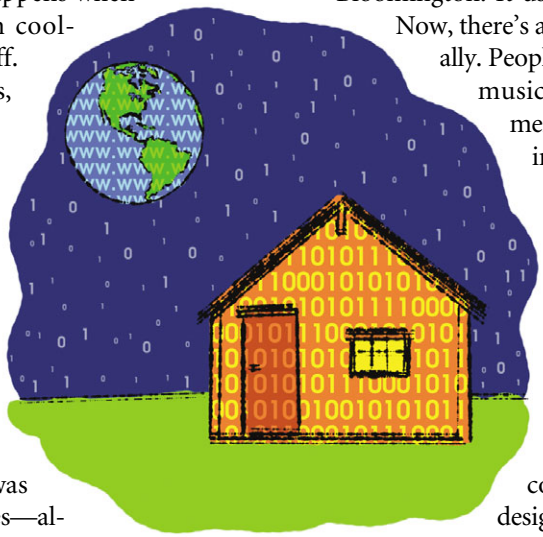


Subscribers, if you're still struggling to find solutions, post your question on the Q&A Board and let fellow Smart Computing subscribers help you solve all of your computer problems.

www.smartcomputing.com

Building The Digital Cottage

Remember when the bubble burst? Thousands of dot coms—many of which had seemingly no hope of ever producing useful products or viable services—went under. They went right from garage start-up to economic oblivion (with perhaps a brief, smug period of VC-funding in between) as the money dried up and months or years went by while they failed to produce any return on investment. This is what happens when you invest in fluff. It might've been cool-looking digital fluff, but it was still fluff.



Oh, a few companies—the big boys, or the ones that became the big boys—managed to turn a profit: eBay, Amazon, Google, and the rest. But most went under or were bought up at fire-sale prices.

Watching the cyber-carnage, one would surely think that the doom-sayers were correct and that the whole Web-as-commerce thing was all smoke and mirrors.

One would be wrong.

As my friend Steve points out, it was *only* the bubble that burst. And bubbles—almost by definition—are small, fragile, ephemeral things: They represent only an infinitesimally tiny part of the pond, lake, or ocean from which they arise.

In reality, now that the cataclysmic din and rumble of the shakeout has quieted enough for us to hear clearly, what's that we hear? It's the sound of cash registers ringing.

Take, for example, the piggybackers. These are folks who've built businesses that ride on the coattails of the Internet's success stories. iSold It, for example, is a nationwide chain of franchises. It serves as a middleman, selling products on eBay for those of us who are too inept to mess with online auctions or who simply wish to avoid the trouble. Got something to sell? Just drop it off at an iSold It store, and it'll take care of it for you. (For a price, of course.)

Or think for a moment about publishers that use the Web to sell intellectual properties such as software, music, ebooks, white papers, and artwork. It's the perfect medium for selling digital content: The customer receives his product immediately, and there's no assembly, packaging, shipping, handling, inventorying, or warehousing. In fact, once the product is built, no one ever touches it again; it just hangs out in cyberspace, quietly and efficiently making money for the vendor.

Even more interesting though, are the thousands of mom-and-pop companies that sell goods on the Internet. By offering their products or services on the Web, they can reach literally millions of potential buyers, only a small fraction of whom could possibly have visited a brick-and-mortar store. Sure, many of these are just cottage industries, but it's a very, very large cottage.

For example, consider Primitive Designs Stencil Company, based in Spencer, Ind., a small town (pop. 2,600) near Bloomington. It uses the Web to sell . . . well, stencils. Now, there's a pretty good market for stencils, actually. People like to stencil designs on their walls, musicians stencil band names on equipment cases, companies stencil logos and information on shipping crates . . . lots of people can use stencils. But how many of them happen to live in or near Spencer, Ind.? If Primitive Designs Stencil Company were only a physical storefront, well, it'd have a tough time making a go of it; the proprietors had better also sell coffee and rolls and perhaps rebuild transmissions, too. Instead, the company offers lots of very nice predesigned stencils and a cool little Web applet that lets users make their own custom stencils: The user enters his text, chooses a font and size, and immediately sees what the result will look like and what the stencil will cost. If he likes what he sees, he just clicks the Buy Now button, and in a couple of days, the stencil shows up on his front porch. The buyer gets to shop from the comfort of her living room or den, and the seller has a customer who found what she needed without having to travel to Spencer, Ind. (Not that there's anything wrong with Spencer, Ind. I'm sure it's a lovely place. Really. Please don't send me letters.)

Now, I don't know the folks at Primitive Designs, haven't spoken to them, never ordered from them, and don't plan to. But I've checked out their Web site and I like what I see: A clever little business that provides a useful product in an efficient manner to the widest possible variety of potential customers.

And that's how you build a digital cottage. ■

BY ROD SCHER

Rod Scher *is a former software developer and a recovering English teacher. He's also the publication editor of* Smart Computing *and will no doubt continue in that position until such time as his boss reads this column. Contact Rod at* **rod-scher@smartcomputing.com.**

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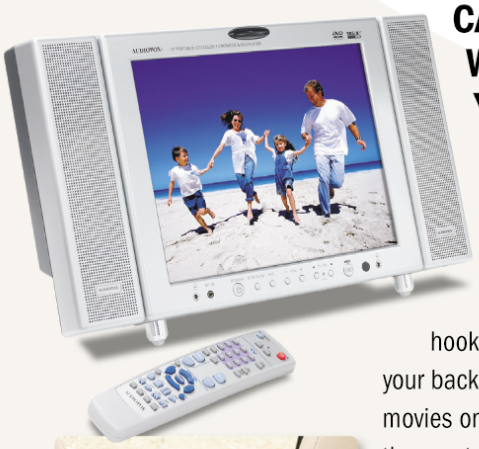

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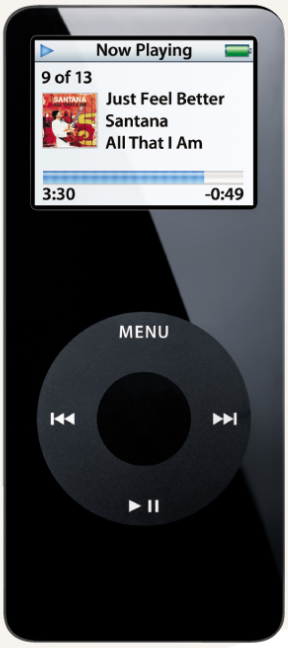

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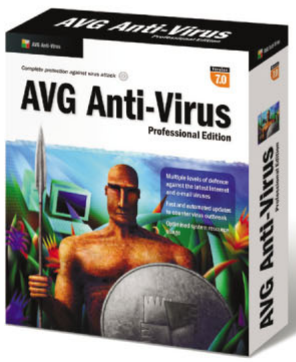

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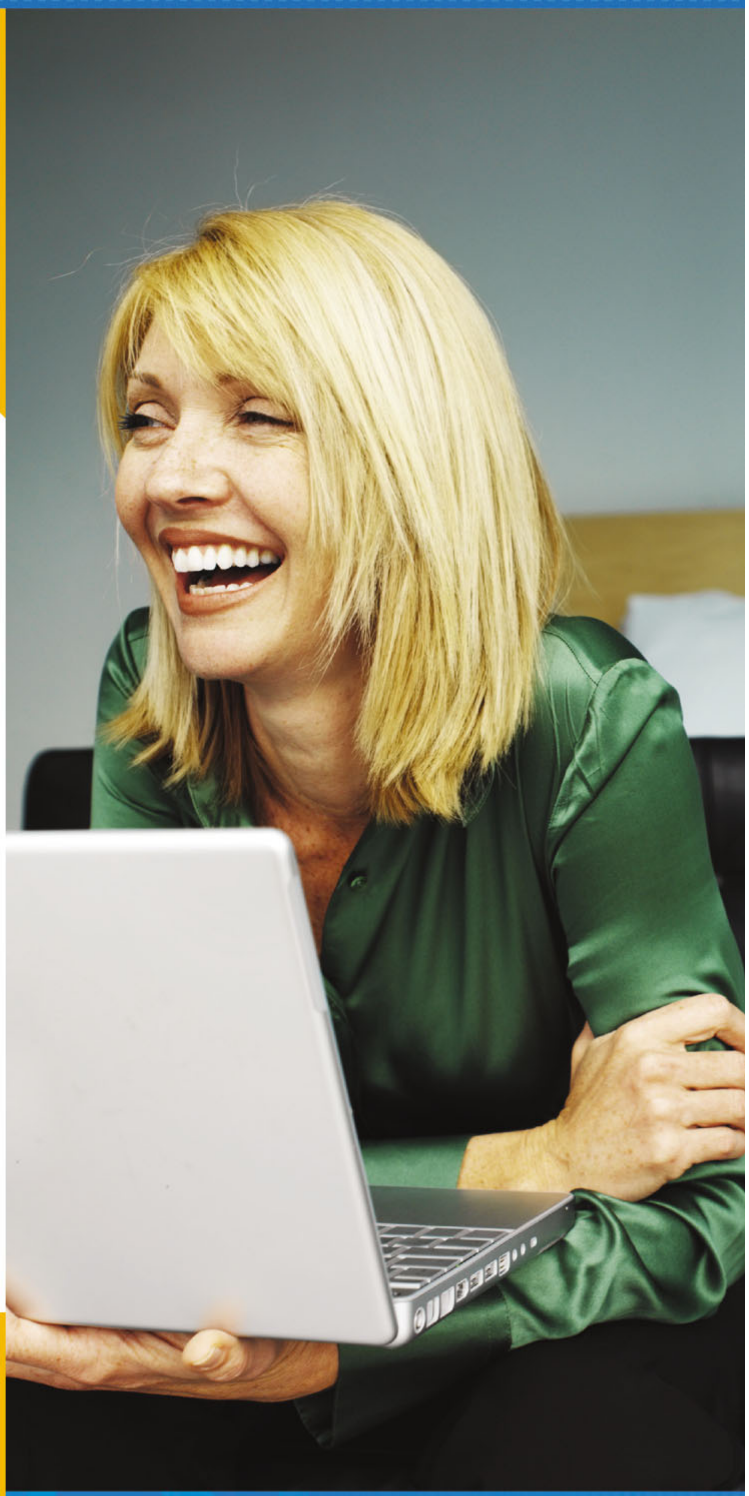

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